DUDLEY STREET
FRIENDS OF THE BOWL FOUNDATION
GORDIE HOWE SPORTS COMPLEX
PHASE 5 CAPITAL PROJECT
NORTH
LEAKOS FIELD
CAIRNS FIELD
GLEN REEVE FIELDS
BOB VAN IMPE STADIUM
AVENUE P SOUTH
GORDIE HOWE KINSMEN ARENA
HAMM
HOME OF THE HILLTOPS
JOE GALLAGHER SOFTBALL FIELD
GORDIE HOWE SPORTS COMPLEX
- PHASE 5 CAPITAL PROJECT -
1. T.B.A. MULTISPORTS COMPLEX
2. MULTISPORTS CENTER TICKET BOOTH
3. INTERNATIONAL STANDARDS TRACK & FIELD COMPLEX
4. INTERNATIONAL STANDARDS SPEED SKATING COMPLEX
5. T.B.A. MULTISPORTS CENTER STORAGE
6. NORDIC SKI CLUB SKI RACK
7. BOB VAN IMPE STADIUM TICKET BOOTH
8. T.B.A. MULTISPORT INDOOR TRAINING FACILITY
9. T.B.A. MULTISPORT FIELD TURF FIELD
10. NEW GRAVEL PARKING
11. NEW ELECTRICAL BUILDING
12. NEW PLAZA
13. BOB VAN IMPE PLAZA
14. 6100x18300 STORAGE BUILDING
15. NEW FIELD TURF PRACTICE FIELDS
16. NEW 2 LANE BATTING CAGE
17. NORDIC SKI TRAILS, HILLS & STADIUM
Google
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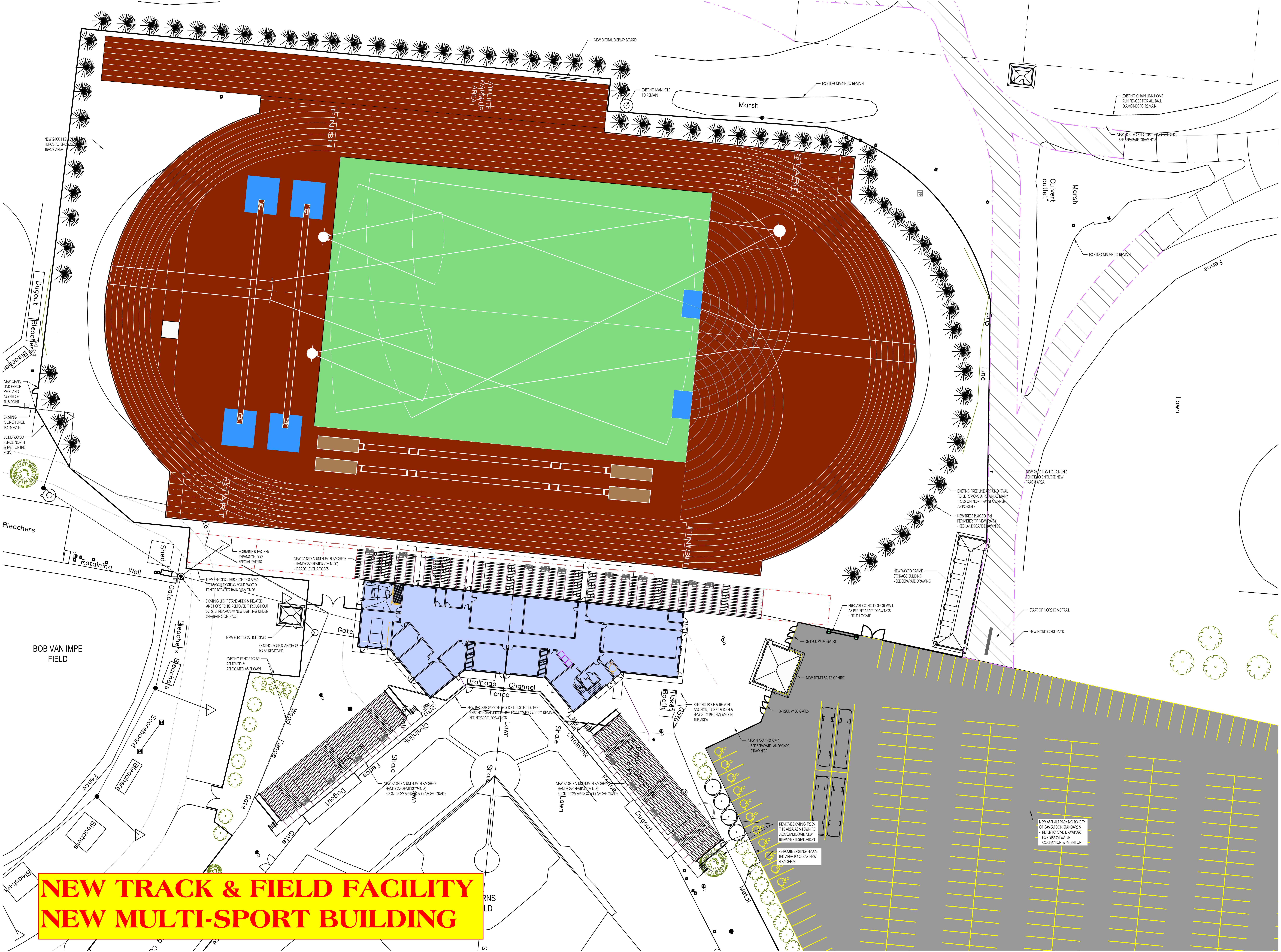
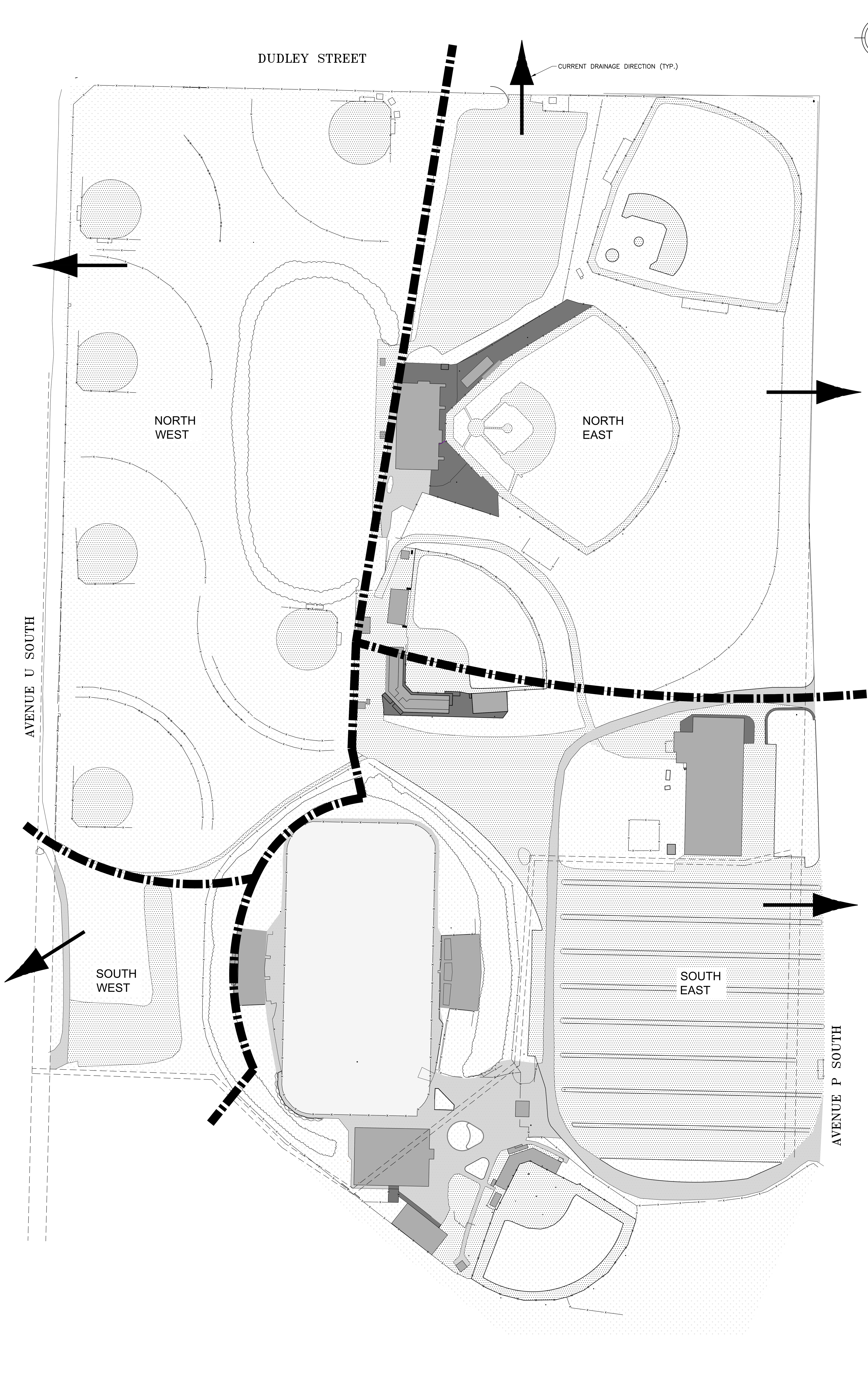
SPEED SKATING OVER NEW
TRACK & FIELD FACILITY
NEW MULTI-SPORT BUILDING
CLARENCE DOWNEY OVAL
BOB VAN IMPE FIELD
Marsh
Culvert outlet
Bleachers
Dugout
Retaining Wall
Shed
Gate
Drainage Channel
Fence
Lawn
Shale
Chainlink Fence
Ticket Booth
Scoreboard
Drip Line
Metal
Wood Fence



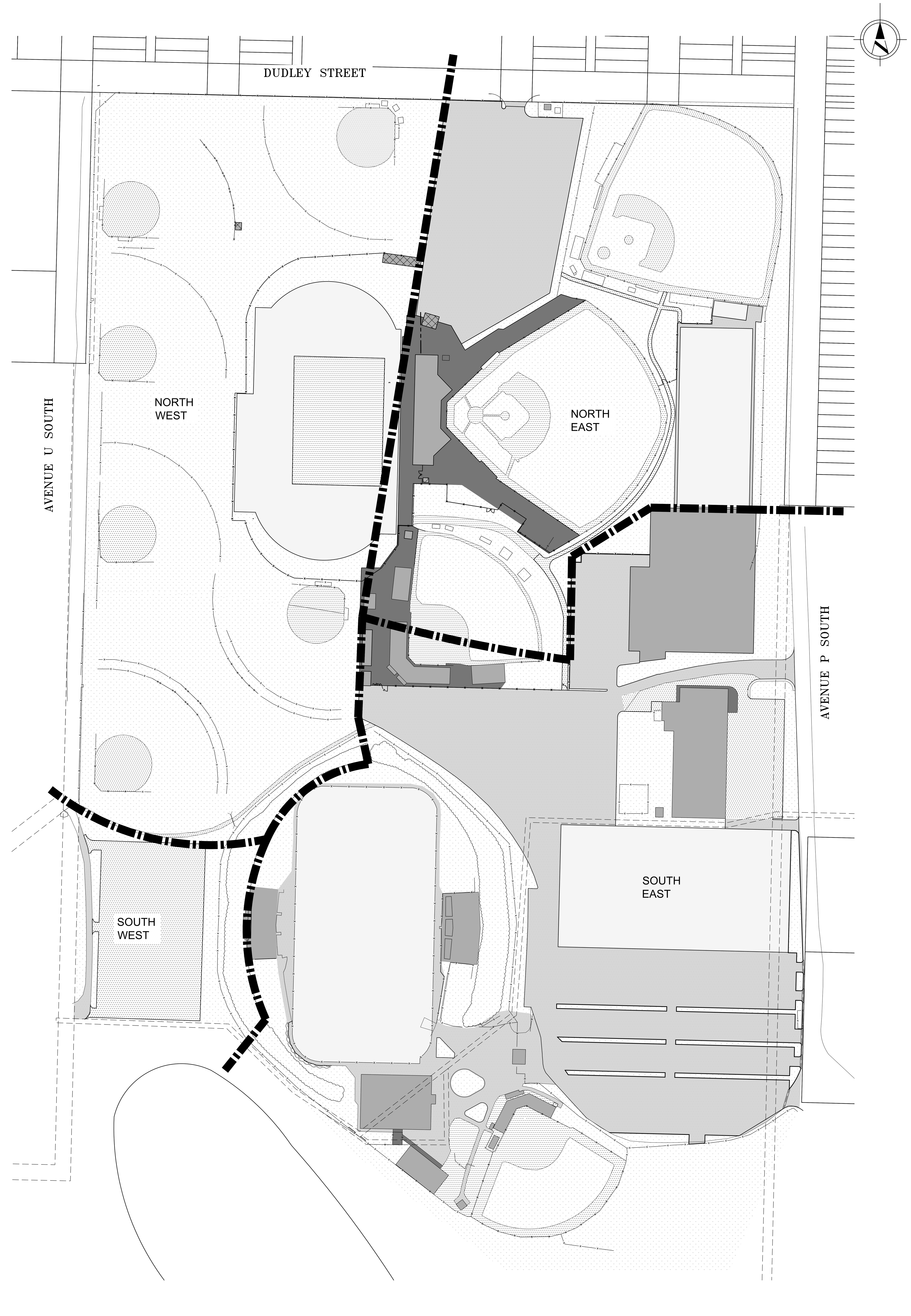
NEW TRACK & FIELD FACILITY
NEW MULTI-SPORT BUILDING

NEW MULTI-SPORT TURF FIELD
REJUVENATED PARKING THROUGH THE AREA

NEW INDOOR TRAINING CENTRE w SASKATOON SPORTS HALL OF FAME NEW TURF BALL PRACTICE FACILITY



PRE-DEVELOPMENT SITE PLAN
SCALE: 1:1250



POST DEVELOPMENT SITE PLAN
SCALE: 1:1250

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2	ISSUED FOR REVIEW	17/12/20

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LEGEND:

- EASEMENT
- FENCE LINE
- BOUNDARY LINE
- ASPHALT AREA
- CONCRETE AREA
- EXIST. BUILDING AREA
- PROPOSESD BUILDING AREA
- LANDSCAPE AREA
- GRAVEL AREA
- SYNTHETIC TRACK

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Tel: (306) 343-7280, Fax: (306) 956-3199

PROJECT

GORDIE HOWE SPORTS COMPLEX - PHASE 5

SASKATOON, SK

DRAWING NAME

PRE VS. POST SITE PLAN

DRAWN	R.BELL	DRAWING
DATE	AUG 2017	TC-1
FILE	17-938	
CHECKED	R.ROGAL	

LEGEND:

X.XX%	DRAINAGE DIRECTION & GRADE
PG XXX.XX	PERIMETER GRADE ELEVATION
CB XXX.XX	CATCH BASIN RIM ELEVATION
EXIST XXX.XX	EXIST. ELEVATION
XXX.XX / XXX.XX	TOP OF CURB ELEVATION TOP OF ASPHALT ELEVATION
TOA XXX.XX	EDGE OF ASPHALT ELEVATION
• XXX.XX	DESIGN ELEVATION
	CATCH BASIN / CATCH BASIN MANHOLE
	RIDGE LINE
	EXIST. FENCE LINE
	EXIST. SHRUBS
	CONCRETE
	EXIST. SIDEWALK
	BUILDINGS

SOUTH EAST *PRE-DEVELOPMENT C FACTOR		
TYPE	AREA (sq.m)	2 YR C
ASPHALT	10414	0.95
CONCRETE	923	0.95
ROOF	8317	0.95
SYNTHETIC TRACK	15304	0.95
LANDSCAPING	38842	0.10
GRAVEL	43478	0.50
TOTAL	117278	0.50

SOUTH EAST *POST-DEVELOPMENT C FACTOR		
TYPE	AREA (sq.m)	2 YR C
ASPHALT	40668	0.95
CONCRETE	1363	0.95
ROOF	15408	0.95
SYNTHETIC TRACK	26690	0.95
LANDSCAPING	38246	0.10
GRAVEL	8359	0.50
TOTAL	130734	0.67

SOUTH EAST STORM WATER RUNOFF STORAGE CALCULATIONS

NOTE:
STORAGE CALCULATIONS BASED ON COS NNDDSM
ONSITE STORAGE REQUIREMENT.

Cd= 0.50 CITY OF SASKATOON DESIGN C FACTOR
Cp= 0.67 SITE DESIGN C FACTOR
A= 869-(200*Cd)
B= 33-(1055*Cd)

REQUIRE STORAGE
VOLUME(cu.m/ha)=A*(Cp-Cd)+B(Cp-Cd)^2
VOLUME(cu.m)= 1522 cu.m.

SURFACE STORAGE PROVIDED= 1936 cu.m.
PIPE STORAGE PROVIDED= 72 cu.m.
MANHOLE STORAGE PROVIDED= 107 cu.m.
TOTAL STORAGE PROVIDED= 2091 cu.m.

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PROJECT
GORDIE HOWE SPORTS COMPLEX - PHASE 5
SASKATOON, SK

DRAWING NAME
SOUTH EAST SECTOR GRADING PLAN (NORTH HALF)

DRAWN	R. BELL	DRAWING
DATE	SEPT 2017	TC-2
FILE	17-938	
CHECKED	R. ROGAL	

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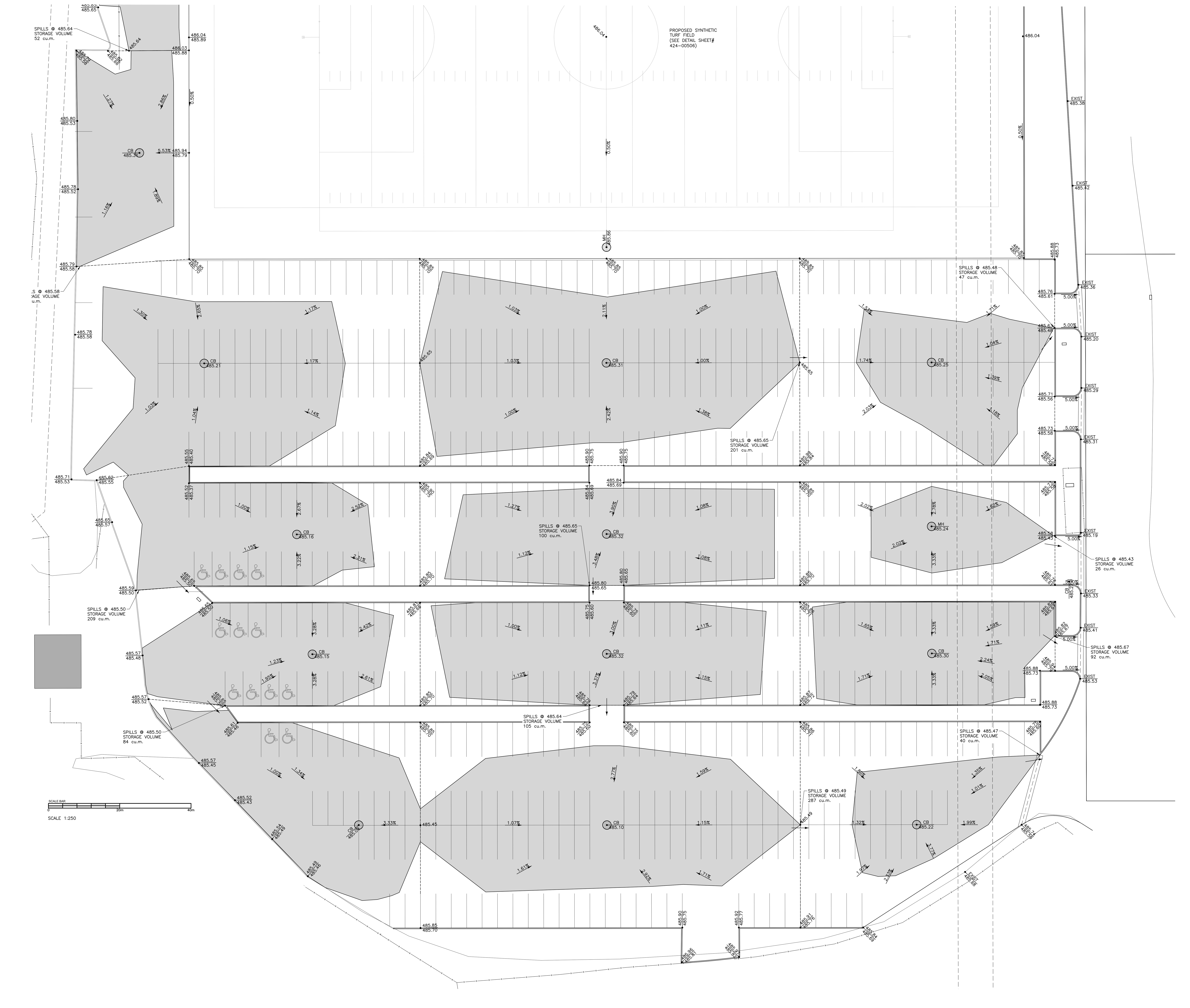

LEGEND:

X.XX%	DRAINAGE DIRECTION & GRADE
PG / XXX.XX	PERIMETER GRADE ELEVATION
CB / XXX.XX	CATCH BASIN RIM ELEVATION
EXIST / XXX.XX	EXIST. ELEVATION
XXX.XX / XXX.XX	TOP OF CURB ELEVATION TOP OF ASPHALT ELEVATION
XXX.XX	DESIGN ELEVATION
	CATCH BASIN / CATCH BASIN MANHOLE
	CATCH BASIN IN CURB
	RIDGE LINE
	EXIST. FENCE LINE
	EXIST. SHRUB LINE
	EASEMENT
	EXIST. BUILDING

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PROJECT

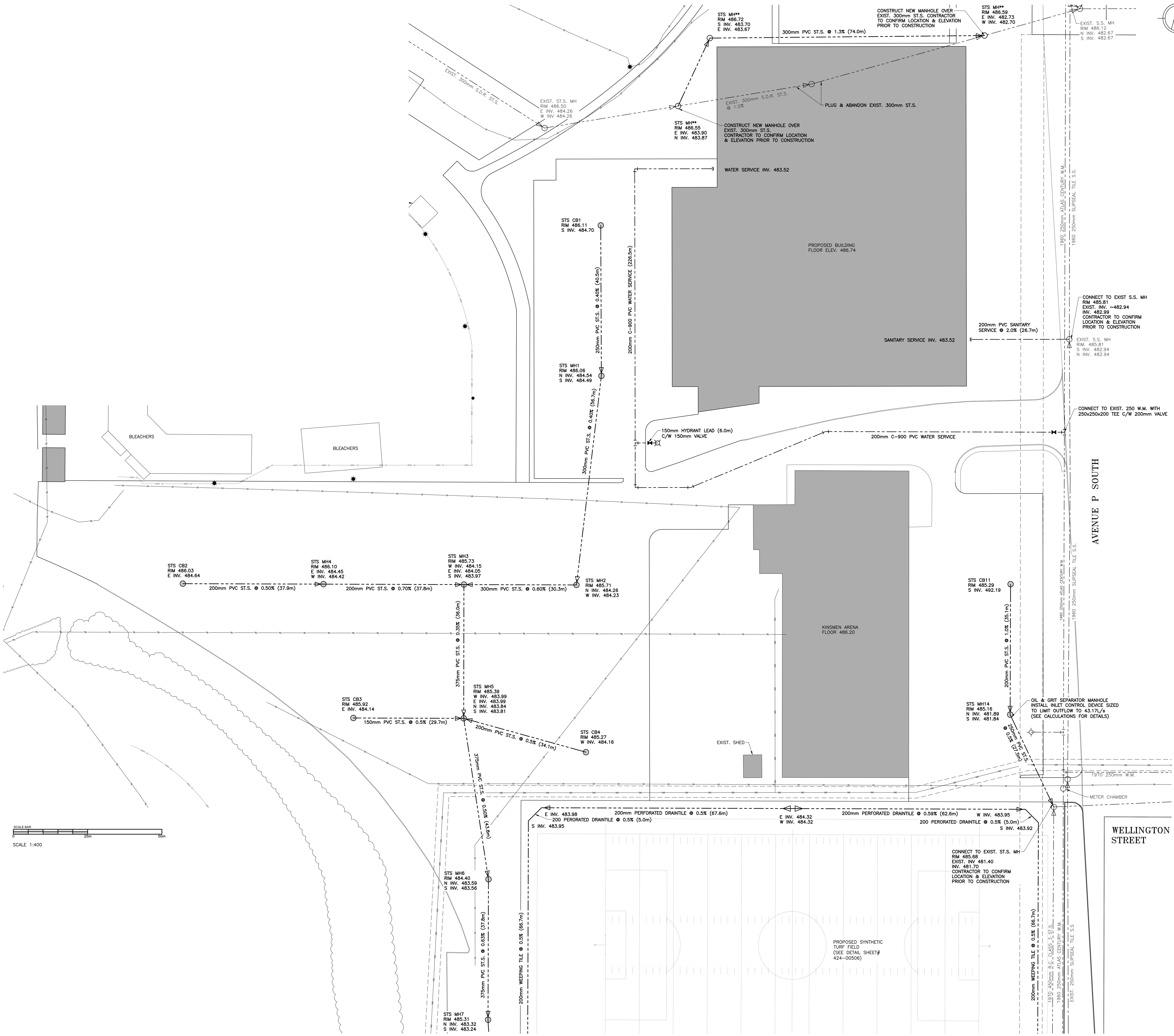
GORDIE HOWE SPORTS COMPLEX - PHASE 5

SASKATOON, SK

DRAWING NAME

SOUTH EAST SECTOR GRADING PLAN (SOUTH HALF)

DRAWN	R.BELL	DRAWING
DATE	SEPT 2017	TC-3
FILE	17-938	
CHECKED	R.ROGAL	



LEGEND:

- EXIST. POWER POLE
- EXIST. LIGHT STANDARD
- MANHOLE
- CATCH BASIN \ CATCH BASIN MANHOLE
- EXIST. CATCH BASIN IN CURB
- FLOW DIRECTION
- EXIST. HYDRANT
- TEE
- VALVE
- EXIST. GAS LINE
- EXIST. PHONE LINE
- EXIST. UNDERGROUND POWER LINE
- EXIST. ABANDONED UNDERGROUND POWER LINE
- EASEMENT
- EXIST. FENCE
- EXIST. SHRUB LINE
- BUILDINGS

ALLOWABLE DISCHARGE

NOTE:
STORAGE CALCULATIONS BASED ON COS NNDDSM MAXIMUM ALLOWABLE DISCHARGE RATE.

Cd= 0.6 CITY OF SASKATOON DESIGN C FACTOR

FLOW(L/s/ha)=114*Cd
FLOW(L/s)= 43.17

ORIFICE SIZE CALCULATION

Q= 0.0432	ALLOWABLE RELEASE RATE (cu.m/s)
K= 0.61	CONSTANT
A=	AREA OR ORIFICE (sq.m)
g= 9.81	ACCELERATION OF GRAVITY (m/s^2)
h= 3.45	HEAD (m)

Q=KA(2gh)^0.5
A= 0.009sq.m
DIAMETER= 0.105m

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PROJECT

GORDIE HOWE SPORTS COMPLEX - PHASE 5

SASKATOON, SK

DRAWING NAME

SOUTH EAST SECTOR SERVICING PLAN (NORTH HALF)

DRAWN	B.BESSEL	DRAWING
DATE	SEPT 2017	TC-4
FILE	17-938	
CHECKED	R.ROGAL	

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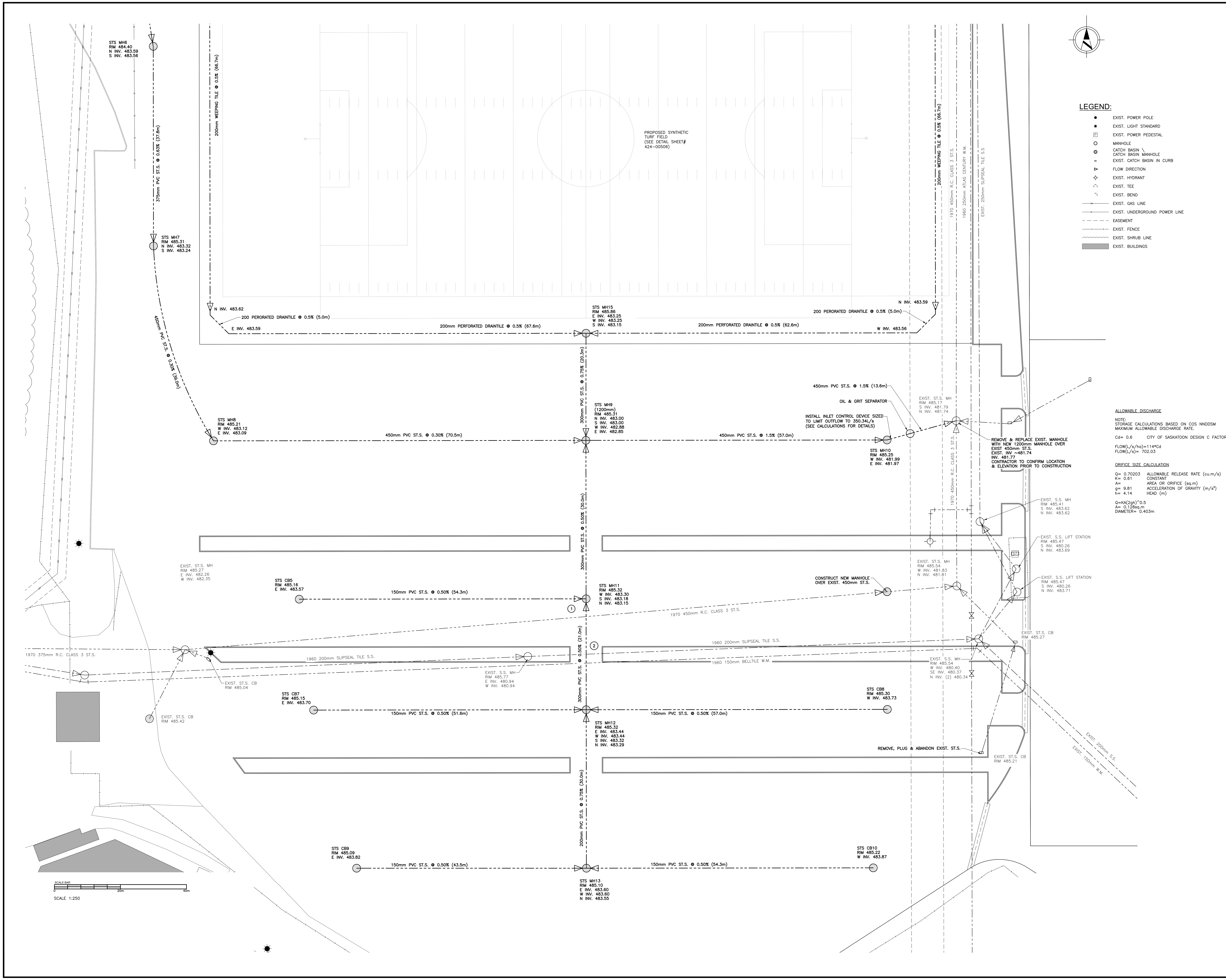

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PROJECT
GORDIE HOWE SPORTS COMPLEX - PHASE 5

SASKATOON, SK

DRAWING NAME
SOUTH EAST SECTOR SERVICING PLAN (SOUTH HALF)

DRAWN	R.BELL	DRAWING
DATE	SEPT 2017	TC-5
FILE	17-938	
CHECKED	R.ROGAL	

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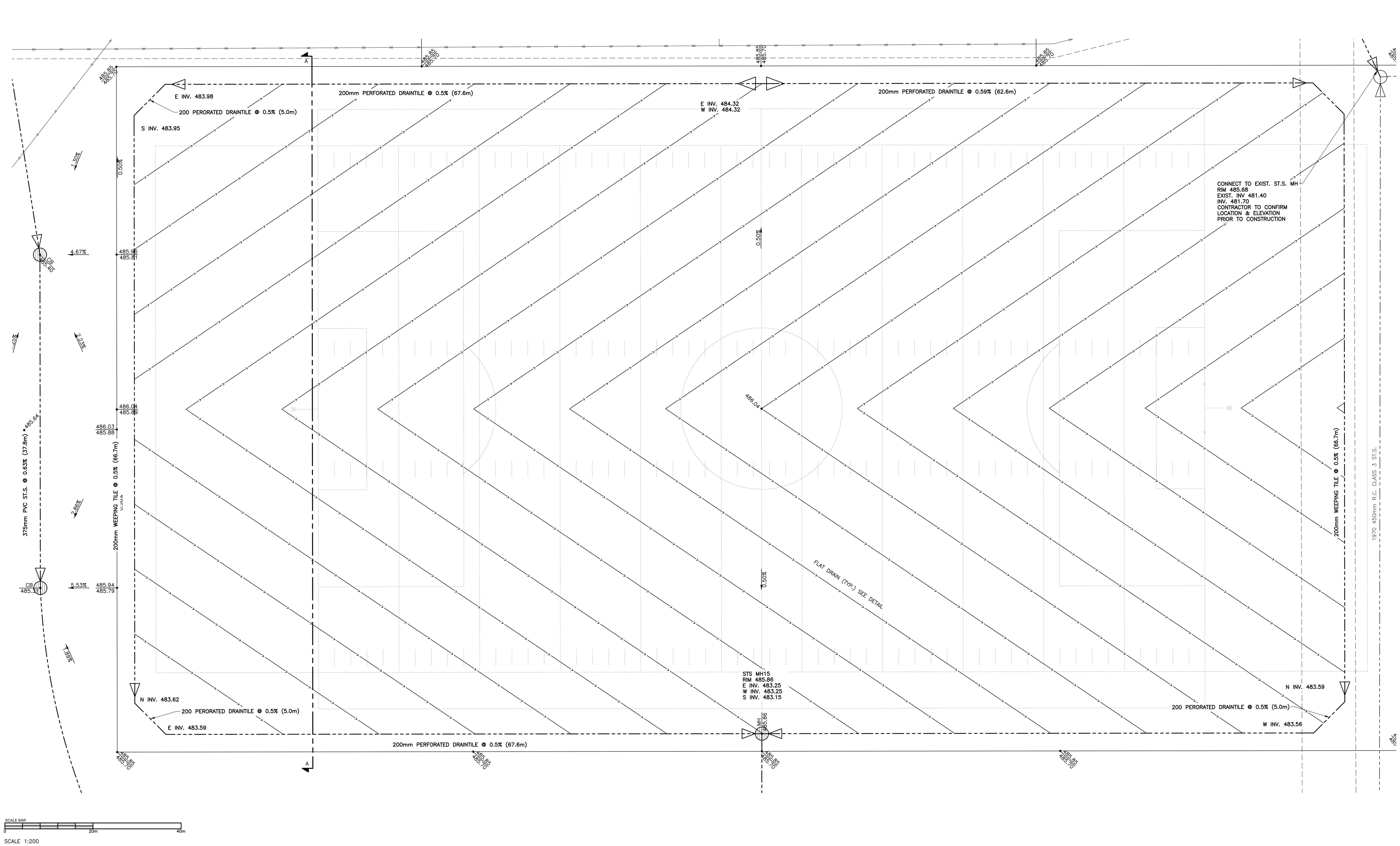
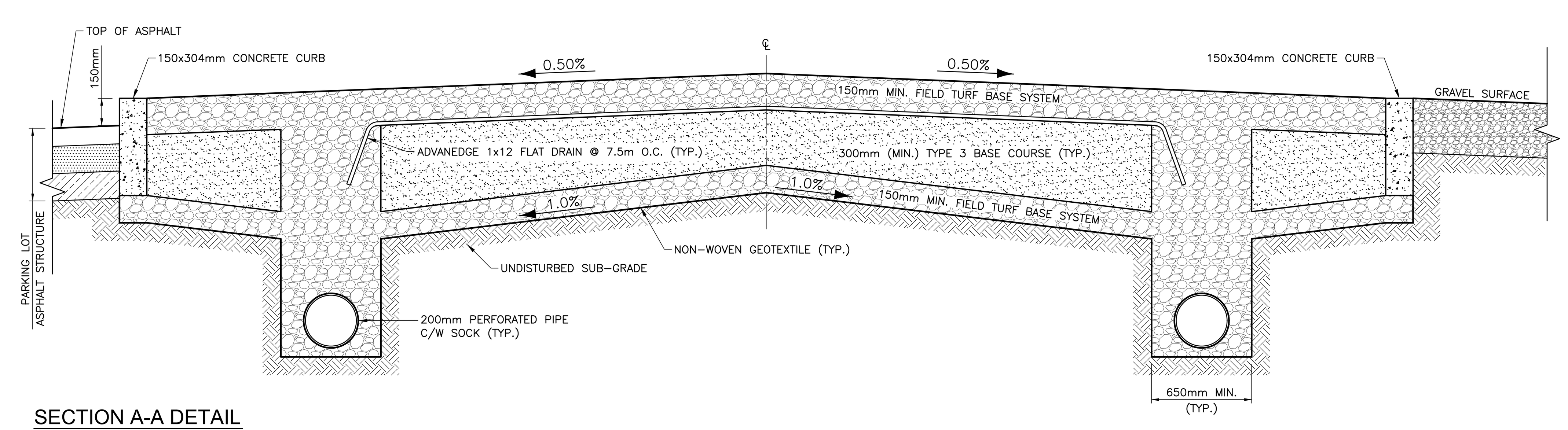


LEGEND:

- EXIST. POWER POLE
- EXIST. LIGHT STANDARD
- EXIST. POWER PEDESTAL
- MANHOLE
- CATCH BASIN / CATCH BASIN MANHOLE
- EXIST. CATCH BASIN IN CURB
- FLOW DIRECTION
- EXIST. HYDRANT
- EXIST. TEE
- EXIST. BEND
- EXIST. GAS LINE
- EXIST. UNDERGROUND POWER LINE
- EASEMENT
- EXIST. FENCE



SECTION A-A DETAIL
SCALE: N.T.S

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PROJECT

GORDIE HOWE SPORTS COMPLEX - PHASE 5

SASKATOON, SK

DRAWING NAME

SOUTH EAST SYNTHETIC TURF FIELD GRADING AND SERVICING

DRAWN	R.BELL	DRAWING
DATE	SEPT 2017	TC-6
FILE	17-938	
CHECKED	R.ROGAL	

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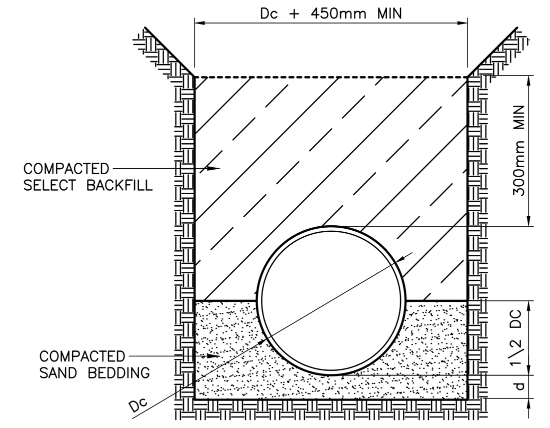
GENERAL
1. ALL CONSTRUCTION WITHIN CITY OF SASKATOON RIGHT OF WAYS TO BE COMPLETED IN ACCORDANCE WITH MUNICIPAL BYLAWS, STANDARDS & SPECIFICATIONS.
2. ALL MATERIALS ARE TO BE NEW AND CSA APPROVED.
3. CONTRACTOR IS RESPONSIBLE FOR OBTAINING LOCATES FOR ALL UTILITIES AND CONTACT UTILITY COMPANIES PRIOR TO CONSTRUCTION.
4. ALL ELEVATIONS OF EXISTING INFRASTRUCTURE ARE APPROXIMATE AND SHOULD BE CONFIRMED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY ERRORS SHOULD BE REPORTED TO THE CONSULTANT IMMEDIATELY UPON DISCOVERY.
5. WATER AND SEWER SERVICES TO BE EXTENDED TO WITHIN 1.0M OF THE BUILDING. EXTENSION TO INSIDE BUILDING SHALL BE COMPLETED BY MECHANICAL CONTRACTOR IN ACCORDANCE WITH PLUMBING SPECIFICATIONS AND CODES AND AS DETAILED ON MECHANICAL DRAWINGS.

TRENCH EXCAVATION
1. REMOVE TOPSOIL FROM LINES OF TRENCHES PRIOR TO CONSTRUCTION.
2. EXCAVATE SUFFICIENTLY TO ALLOW FOR THE INSTALLATION OF PIPES, FITTINGS AND APPURTENANCES TO THE LINES, GRADES AND ELEVATIONS AS SHOWN ON THE DRAWINGS OR ESTABLISHED BY THE CONSULTANT IN THE FIELD. PIPES SHALL REST ON APPROVED COMPACTED GRANULAR MATERIAL (CLASS B BEDDING). OVER-EXCAVATION SHALL BE BROUGHT UP TO GRADE USING COMPACTED GRANULAR MATERIAL AT THE EXPENSE OF THE CONTRACTOR. TOPSOIL, BUSH AND GRAVEL SHALL BE REMOVED PRIOR TO TRENCHING AND STOCKPILED FOR FUTURE USE OR DISPOSED OF.
3. OBEY LAWS, RULES AND ORDINANCES RESPECTING EXCAVATION. TRENCHES SHALL BE SHEETED OR BRACED AS REQUIRED BY OCCUPATIONAL HEALTH & SAFETY REGULATIONS TO PROTECT LIFE, PROPERTY AND THE WORK. ALL COSTS INCURRED SHALL BE BORNE BY THE CONTRACTOR. OPEN V-CUT METHODS OF EXCAVATION MAY BE USED PROVIDED THE TRENCH SIDES MEET REGULATIONS.
4. THE MAXIMUM TRENCH WIDTH AT THE TOP OF THE PIPE SHALL BE:
A. PIPE 900mm NOMINAL DIAMETER AND OVER; THE OUTSIDE DIAMETER OF THE PIPE PLUS 600mm.
B. PIPES UNDER 900mm NOMINAL DIAMETER; THE OUTSIDE DIAMETER OF THE PIPE PLUS 400mm, EXCEPT THE CONTRACTOR WILL NOT BE REQUIRED TO EXCAVATE A TRENCH LESS THAN 900mm WIDE.
5. REPLACE UNSTABLE FOUNDATION MATERIAL WITH COMPACTED GRANULAR, OR OTHER SPECIAL FOUNDATION AS REQUIRED AND APPROVED BY THE CONSULTANT. THIS SHALL BE CLASSIFIED AS EXTRA WORK UNDER THE TERMS OF THE CONTRACT. DEWATER EXCAVATIONS. NO EXTRA SHALL BE ALLOWED FOR WET EXCAVATION.
6. USE OF THE NEW PIPE FOR DEWATERING SHALL BE DONE ONLY ON THE APPROVAL OF THE CONSULTANT.
7. UNSUITABLE BACKFILL MATERIAL SUCH AS ROCKS AND CHUNKS OF CONCRETE AND MASONRY OVER 200mm IN DIAMETER SHALL BE HAULED FROM THE SITE AND DISPOSED OF.
8. CLEARANCE BETWEEN ROCKS LEFT IN PLACE IN THE TRENCH AND THE WALL OF THE PIPE SHALL BE A MINIMUM OF 150mm, THE SPACE BETWEEN THE ROCK AND THE PIPE SHALL BE FILLED WITH SELECTED AND COMPACTED MATERIAL.

BACKFILLING
1. INITIAL BACKFILLING TO 300mm ABOVE THE PIPE SHALL BE COMPACTED SELECT BACKFILL.
2. ABOVE THE 300mm LAYER, THE BACKFILL SHALL BE CLASS II. APPROVED EXCAVATED MATERIAL SHALL BE PLACED IN MAXIMUM 150mm LIFTS AND COMPACTED TO A MINIMUM OF 98% OF THE STANDARD PROCTOR DENSITY USING MECHANICAL COMPACTION EQUIPMENT.
3. STONES OVER 200mm IN DIAMETER, CHUNKS OF CONCRETE, ORGANIC OR FROZEN MATERIAL OR OTHER DEBRIS SUCH AS BRUSH AND ROOTS ARE NOT ALLOWED IN THE BACKFILL.
4. WHERE UTILITY PIPES CROSS EACH OTHER, THE MATERIAL BETWEEN THE PIPES SHALL BE BASE GRAVEL COMPACTED TO ELIMINATE SETTLEMENT.
5. ANY OPEN TRENCHES MUST BE APPROPRIATELY SECURED AND MARKED ACCORDING TO RULES AND REGULATIONS IN FORCE FOR THE SAFETY OF PEDESTRIANS AND VEHICLES.
6. UPON COMPLETION OF THE WORK REMOVE ALL UNUSED OR DAMAGED MATERIAL AND OTHER CONSTRUCTION DEBRIS FROM THE SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRS REQUIRED DUE TO SETTLEMENT OF THE TRENCH DURING THE MAINTENANCE PERIOD.

WATER
1. ALL WATER PIPE AS SPECIFIED ON DRAWINGS.
2. MINIMUM COVER ON ALL WATER MAINS IS TO BE 2.8m. PRESSURE TESTING AND CHLORINATION OF ALL MAINS IN ACCORDANCE WITH THE CITY OF SASKATOON AND HEALTH DEPARTMENT REQUIREMENTS.
3. INSTALL CONCRETE THRUST BACKING AS REQUIRED FOR FITTINGS AND TEES $0.4m^2$ TO UNDISTURBED TRENCH WALL. PIPE BEDDING SHALL BE CLASS B AS DETAILED.
4. BACTERIAL TESTING SHALL BE COMPLETED IN ACCORDANCE WITH SASKATCHEWAN WATER SECURITY AGENCY REGULATIONS.

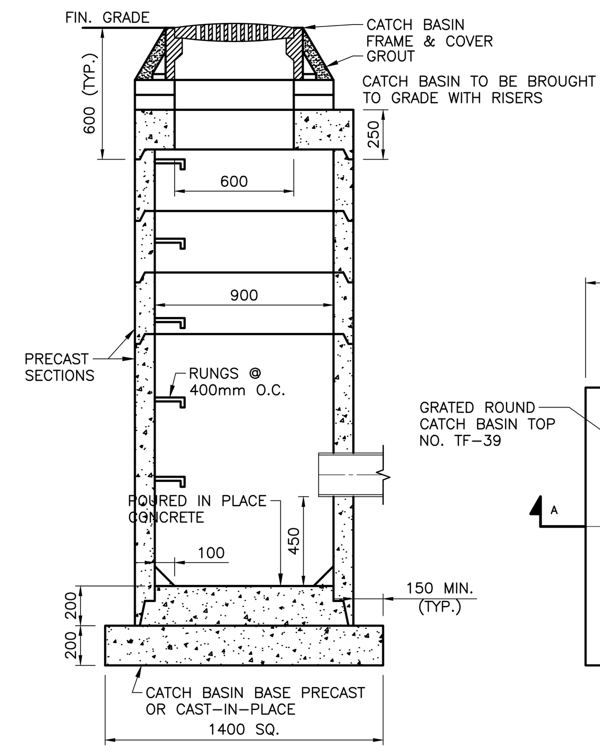
SANITARY/STORM SEWER
1. SANITARY SEWER SERVICE 150mm OR SMALLER SHALL BE SDR28 PVC. SEWER PIPING LARGER THAN 150mm IN DIAMETER SHALL BE SDR35 PVC. ALL PIPE SHALL BE COMPLETE WITH FACTORY INSTALLED RUBBER GASKET JOINTS.
2. PIPE BEDDING SHALL BE CLASS B AS DETAILED.
3. MANHOLE BARRELS AND CONES SHALL CONFORM TO ASTM C478. JOINTS SHALL BE SUITABLE FOR EITHER RUBBER GASKETS OR MASTIC SEALANTS. USE PRECAST BASE SECTIONS. ALUMINIUM STEPS SHALL BE CAST INTO THE SECTIONS USING POLYETHYLENE ANCHORS. CONE SECTIONS SHALL BE ECCENTRIC AND REDUCE TO 600mm. MINIMUM CONCRETE STRENGTH SHALL BE 27.6MPa IN 28 DAYS.
5. REINFORCING STEEL FOR BASE SHALL BE 10M REINFORCING RODS PLACED 150mm O.C. EACH WAY.
6. ALL CONCRETE SHALL BE PLACED MONOLITHICALLY.



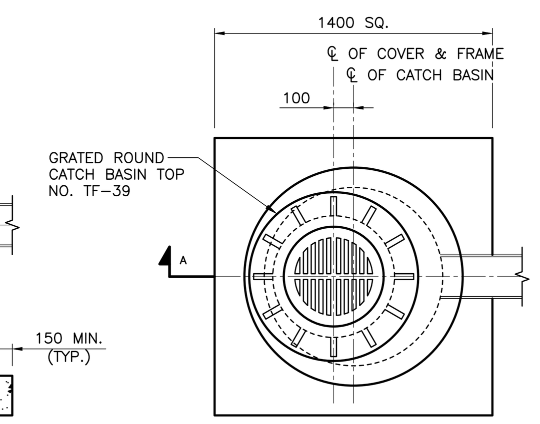
NOTES:
1. SELECT BACKFILL TO BE FREE OF ALL LUMPS, STONES AND SUBSTANCES WHICH COULD REACT CHEMICALLY WITH PIPE MATERIAL.
2. PNEUMATIC OR MECHANICAL EQUIPMENT SHALL BE USED TO COMPACT THE BEDDING MATERIAL AND SELECT BACKFILL MATERIAL.
3. MINIMUM BEDDING REQUIREMENT FOR CLASS B SOIL TYPES.

BEDDING MAT. BELOW PIPE		LEGEND
D	d(MIN)	Dc = OUTSIDE DIAMETER
450mm & SMALLER	80mm	D = INSIDE DIAMETER
		d = DEPTH OF BEDDING BELOW PIPE

PIPE BEDDING DETAIL
SCALE: NTS



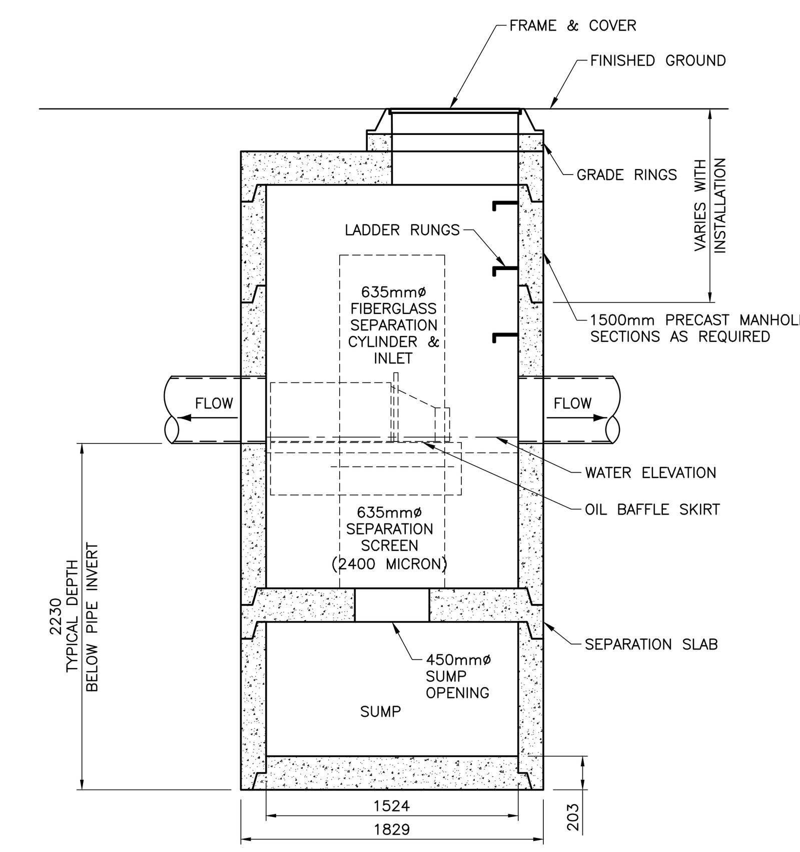
SECTION A
SCALE: N.T.S.



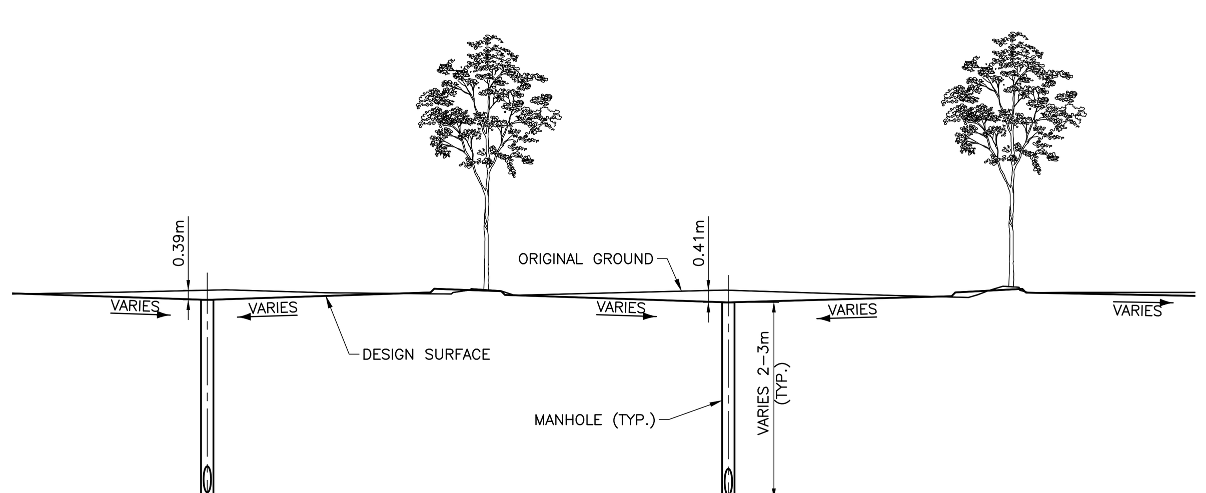
PLAN VIEW
SCALE: N.T.S.

NOTE:
1. FOR POURED IN PLACE BASE SET C.B. BARREL IN WET CONCRETE
2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

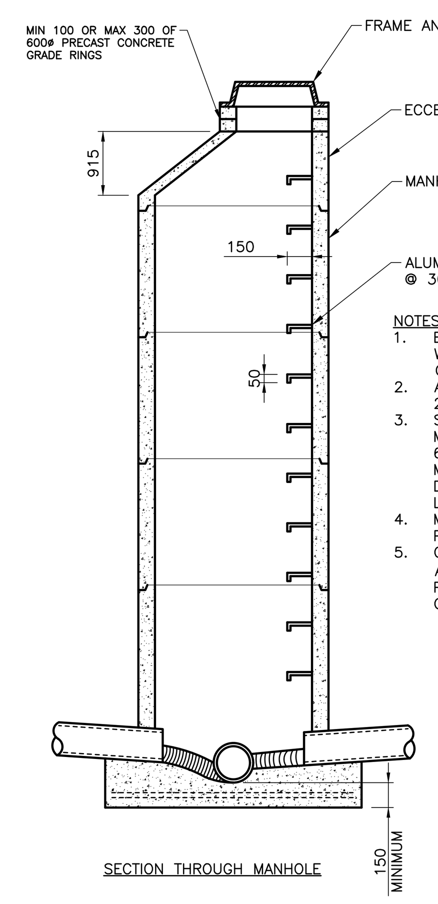
900mm PRE-CAST CATCH BASIN
SCALE: NTS



OIL & GRIT SEPARATOR CDS2025
SCALE: NTS

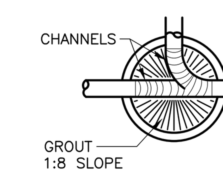


TYPICAL PARKING MEDIAN CROSS SECTION
SCALE: NTS



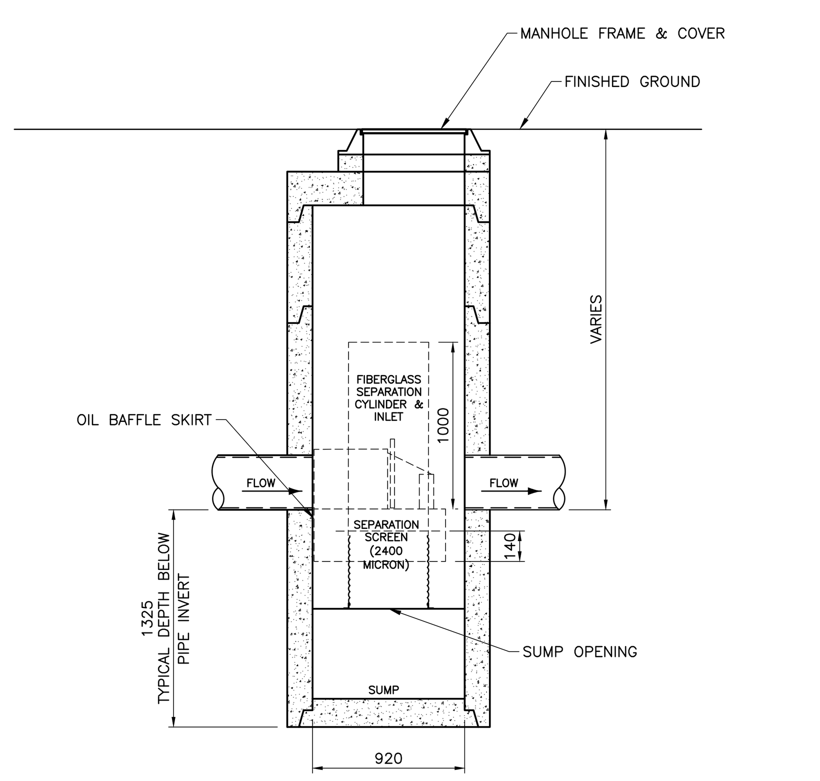
SECTION THROUGH MANHOLE

NOTES
1. EXTERNAL DROP STRUCTURE REQUIRED WHEN INVERT OF INLET PIPE IS 750mm OR MORE ABOVE INVERT OF OUTLET PIPE.
2. ALL CAST IN PLACE CONCRETE TO BE 20MPa CSA TYPE 50.
3. SAFETY PLATFORMS REQUIRED FOR MANHOLES WITH DEPTHS GREATER THEN 6.0 METERS & ARRANGE IN SUCH A MANNER SO THAT NO VERTICAL FALL DISTANCE EXCEEDS 5.0 METERS OR IS LESS THEN 2.4 METERS.
4. MANHOLE RUNGS SHALL BE ORIENTED TO PROVIDE A CLEAR LANDING AT BASE.
5. GROUT FLOW CHANNELS IN MANHOLE BASE AT LEAST 1/2 OF THE DIAMETER OF THE PIPE. SLOPE M.H. FLOOR TOWARDS FLOW CHANNELS.



GROUTING DETAIL

MANHOLE DETAIL
SCALE: NTS



OIL & GRIT SEPARATOR CDS1515-3
SCALE: NTS

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REVISIONS

No.	DESCRIPTION	DATE
1	ISSUED FOR PERMIT	17/11/29
2	ISSUED FOR REVIEW	17/12/20

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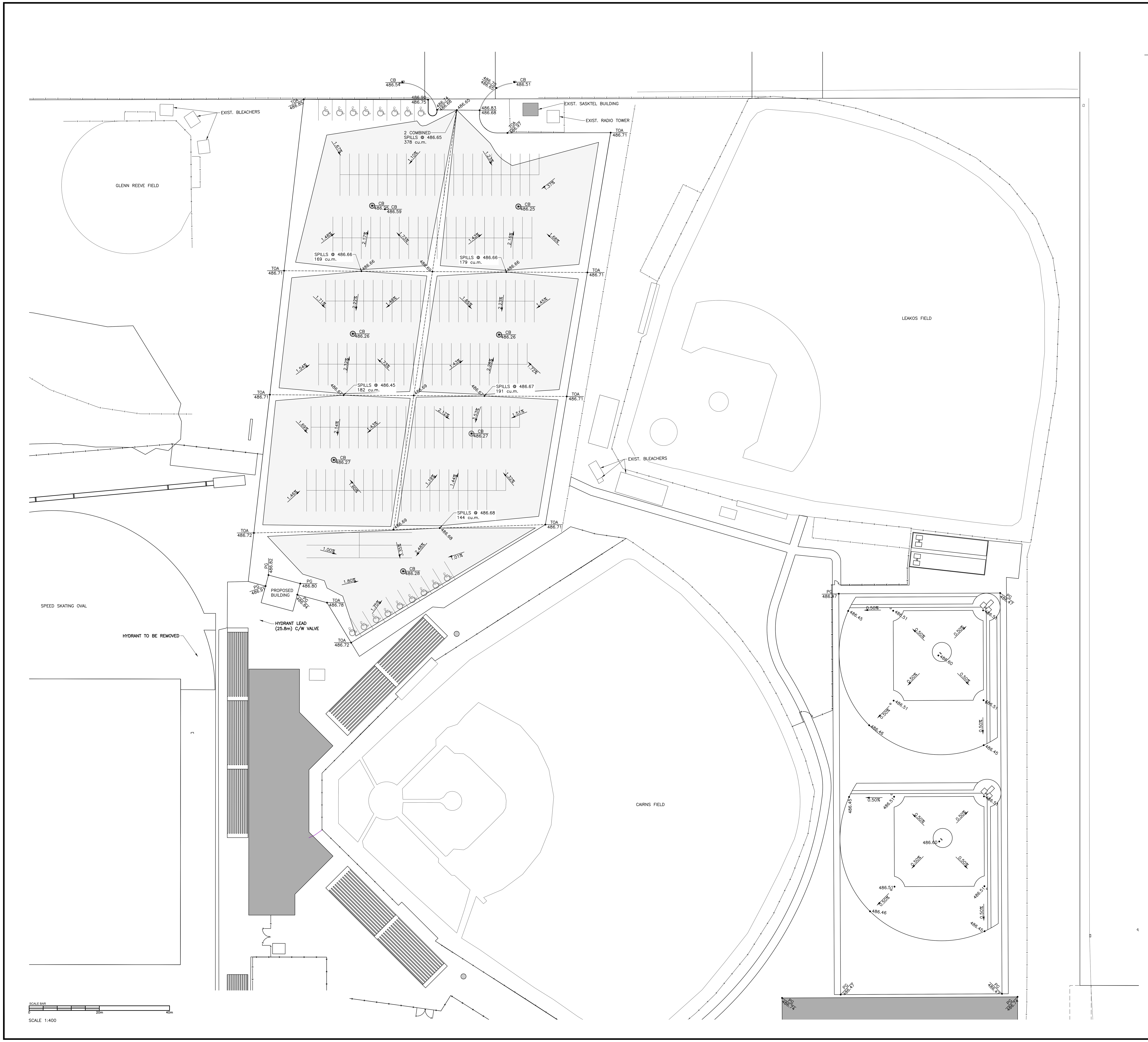
PROJECT
GORDIE HOWE SPORTS COMPLEX - PHASE 5
SASKATOON, SK

DRAWING NAME
DETAILS

DRAWN	R.BELL	DRAWING
DATE	SEPT 2017	TC-7
FILE	17-938	
CHECKED	R.ROGAL	



LEGEND:

X.XX%	DRAINAGE DIRECTION & GRADE
PG XXX.XX	PERIMETER GRADE ELEVATION
CB XXX.XX	CATCH BASIN RIM ELEVATION
EXIST XXX.XX	EXIST. ELEVATION
• XXX.XX	DESIGN ELEVATION
	CATCH BASIN / CATCH BASIN MANHOLE
	EXIST. CATCH BASIN IN CURB
-----------	RIDGE LINE
	EXIST. FENCE LINE

NORTH EAST *PRE-DEVELOPMENT C FACTOR		
TYPE	AREA (sq.m)	2 YR C
ASPHALT	1320	0.95
CONCRETE	2675	0.95
ROOF	1988	0.95
LANDSCAPING	62885	0.10
GRAVEL	18865	0.50
TOTAL	87733	0.24

NORTH EAST *POST-DEVELOPMENT C FACTOR		
TYPE	AREA (sq.m)	2 YR C
ASPHALT	12388	0.95
CONCRETE	6394	0.95
ROOF	1780	0.95
SYNTHETIC TRACK	6193	0.95
LANDSCAPING	39351	0.10
GRAVEL	8156	0.50
TOTAL	74262	0.45

STORM WATER RUNOFF STORAGE
CALCULATIONS FOR NORTH EAST SIDE

NOTE:
STORAGE CALCULATIONS BASED ON COS NNDDSM
ONSITE STORAGE REQUIREMENT.

Cd= 0.39 CITY OF SASKATOON DESIGN C FACTOR
Cp= 0.53 SITE DESIGN C FACTOR
A= 869-(200*Cd)
B= 33-(1055*Cd)

REQUIRE STORAGE
VOLUME(cu.m/ha)=A*(Cp-Cd)+B(Cp-Cd)^2
VOLUME(cu.m)= 1208 cu.m.

SURFACE STORAGE PROVIDED= 1243 cu.m.
PIPE STORAGE PROVIDED= *** cu.m.
MANHOLE STORAGE PROVIDED= *** cu.m.
TOTAL STORAGE PROVIDED= **** cu.m.

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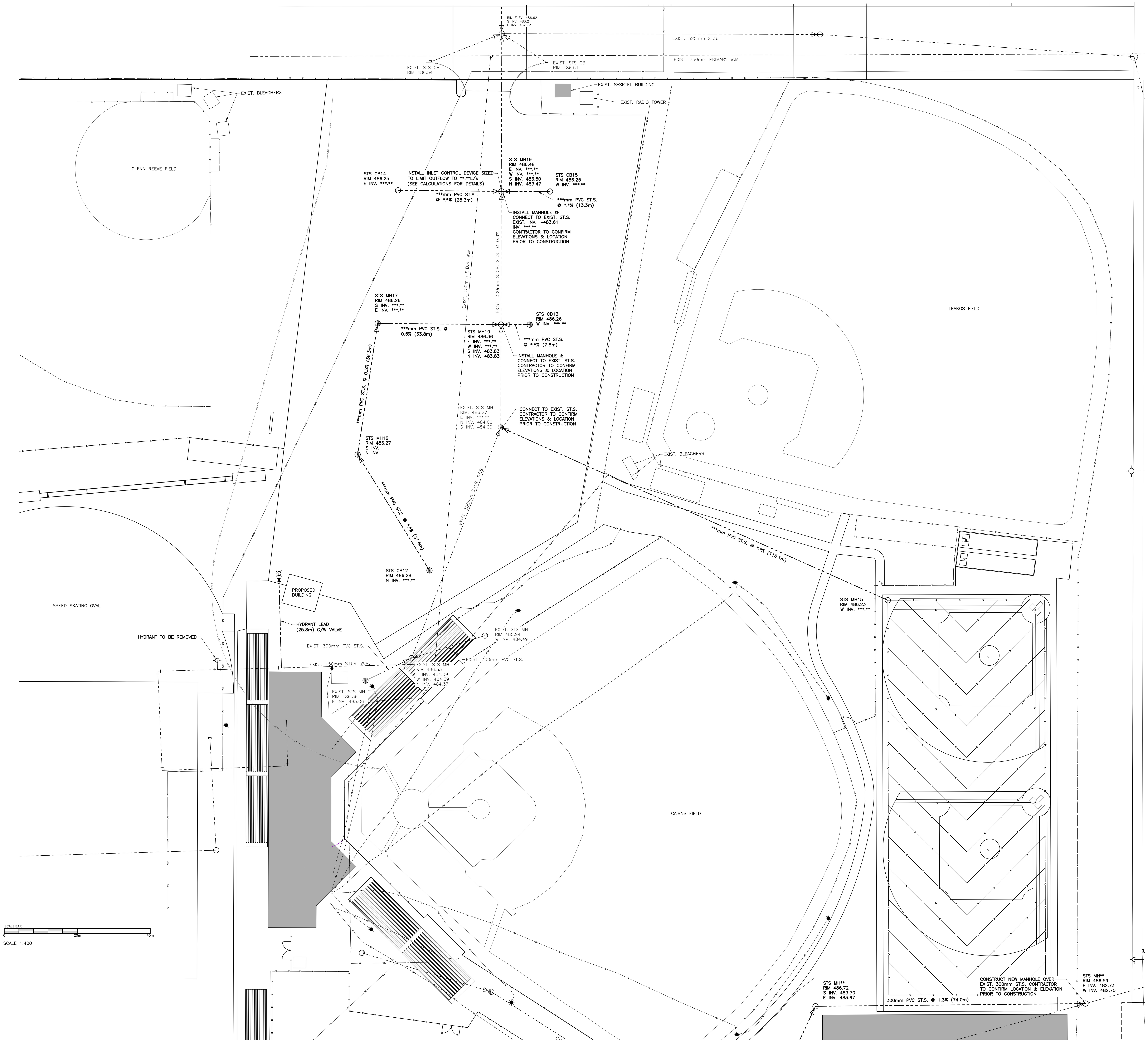
PROJECT
GORDIE HOWE SPORTS COMPLEX - PHASE 5
SASKATOON, SK

DRAWING NAME
NORTH EAST SECTOR GRADING PLAN

DRAWN	R.BELL	DRAWING
DATE	DEC 2017	TC-8
FILE	17-938	
CHECKED	R.ROGAL	



LEGEND:

- MANHOLE
- CATCH BASIN\ CATCH BASIN MANHOLE
- EXIST. CATCH BASIN IN CURB
- FLOW DIRECTION
- EXIST. GAS LINE
- EXIST. PHONE LINE
- EXIST. ABANDONED PHONE LINE
- EASEMENT
- EXIST. FENCE

ALLOWABLE DISCHARGE

NOTE:
STORAGE CALCULATIONS BASED ON COS NNDDSM MAXIMUM ALLOWABLE DISCHARGE RATE.

Cd= 0.24 CITY OF SASKATOON DESIGN C FACTOR

FLOW(L/s/ha)=114*Cd
FLOW(L/s)= 203.18

ORIFICE SIZE CALCULATION

Q= 0.20318 ALLOWABLE RELEASE RATE (cu.m/s)
K= 0.61 CONSTANT
A= AREA OR ORIFICE (sq.m)
g= 9.81 ACCELERATION OF GRAVITY (m/s^2)
h= 2.80 HEAD (m)

Q=KA(2gh)^0.5
A= 0.045sq.m
DIAMETER= 2.39m

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PROJECT
GORDIE HOWE SPORTS COMPLEX - PHASE 5
SASKATOON, SK

DRAWING NAME
NORTH EAST SECTOR SERVICING PLAN

DRAWN	R.BELL	DRAWING	TC-9
DATE	DEC 2017		
FILE	17-938		
CHECKED	R.ROGAL		

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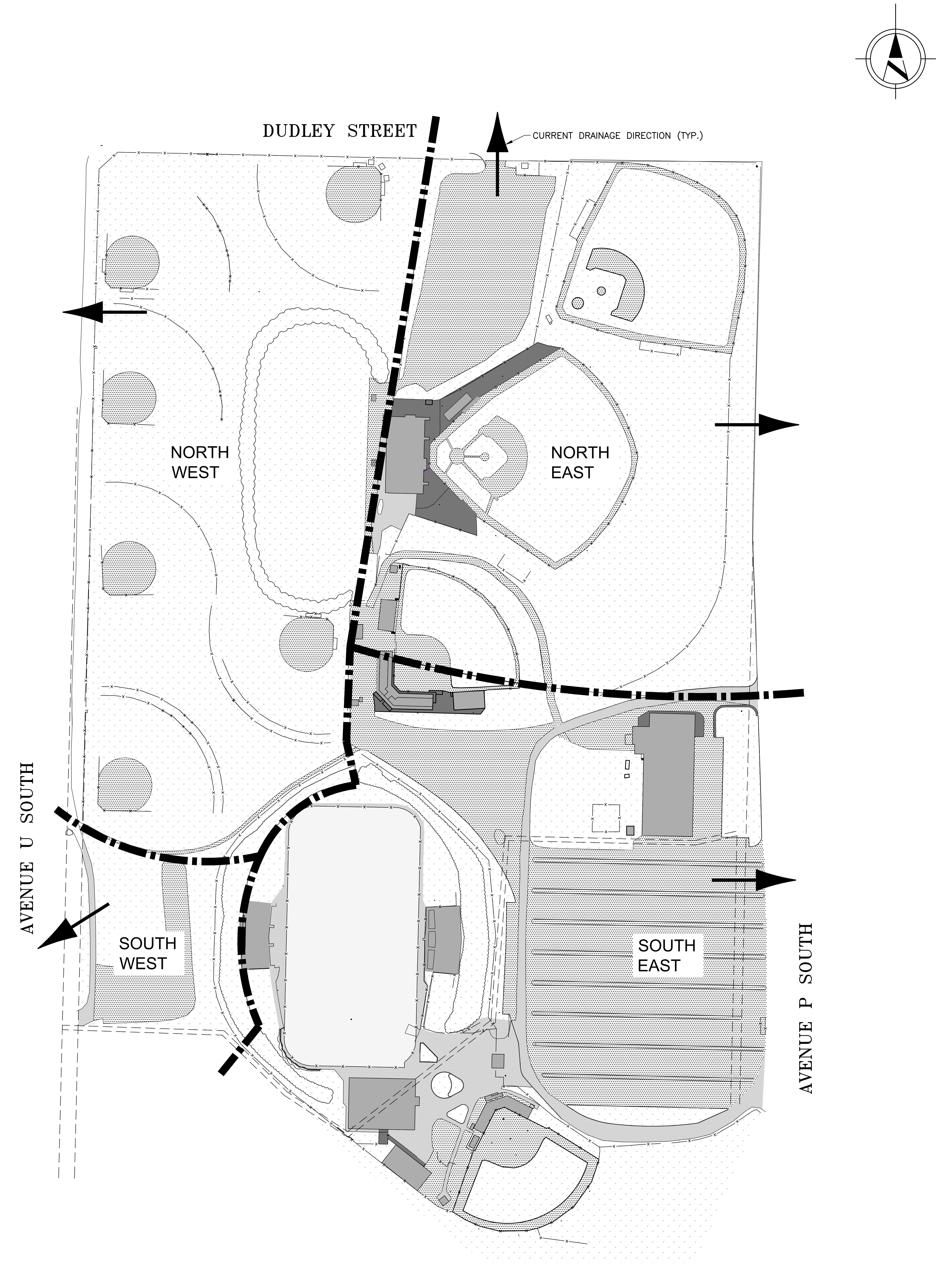
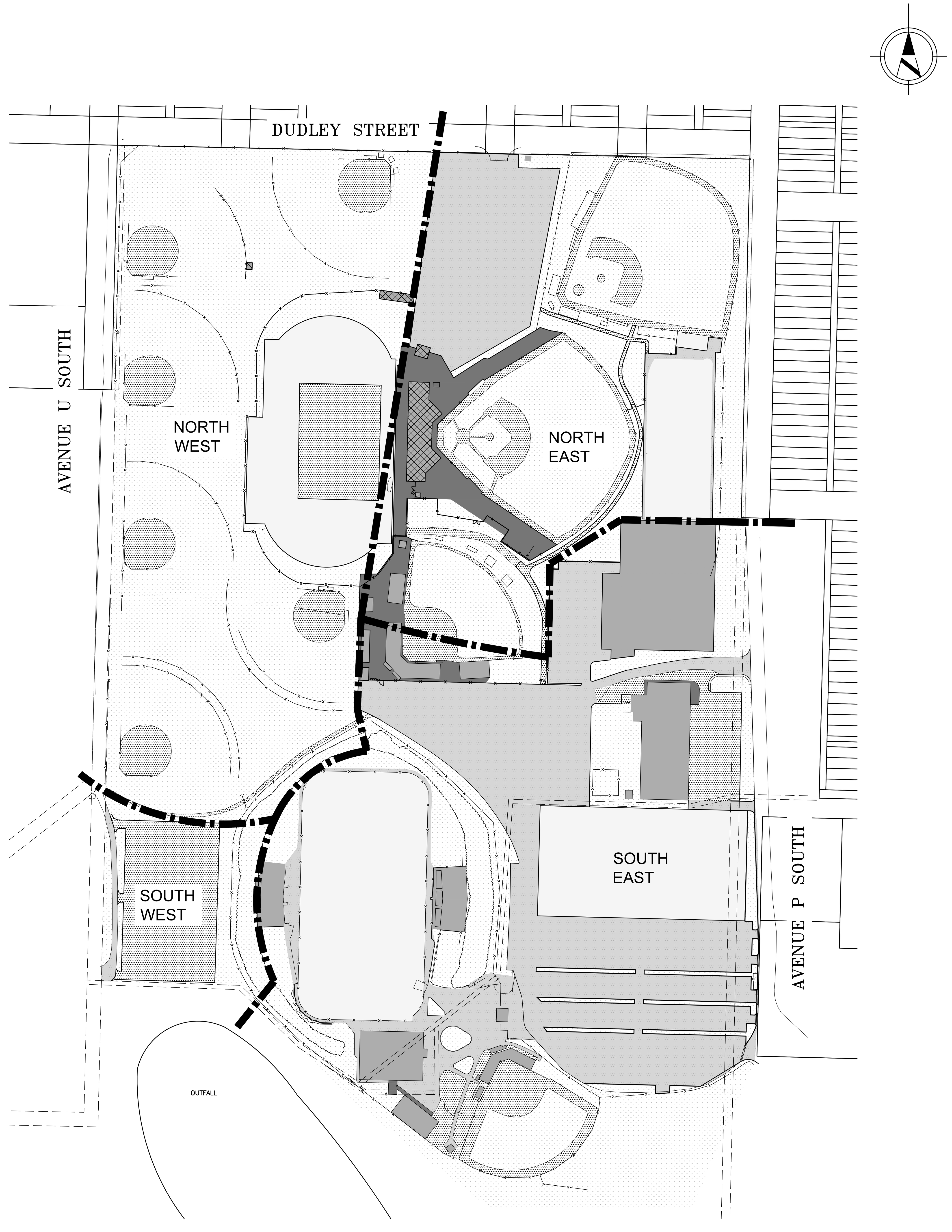


PRE-DEVELOPMENT SITE PLAN
SCALE: 1:2000



POST DEVELOPMENT SITE PLAN
SCALE: 1:2000

SOUTH EAST *PRE-DEVELOPMENT C FACTOR		
TYPE	AREA (sq.m)	2 YR C
ASPHALT	10414	0.95
CONCRETE	923	0.95
ROOF	8317	0.95
SYNTHETIC TRACK	15304	0.95
LANDSCAPING	38842	0.10
GRAVEL	43478	0.50
TOTAL	117278	0.50

SOUTH EAST *POST-DEVELOPMENT C FACTOR		
TYPE	AREA (sq.m)	2 YR C
ASPHALT	40668	0.95
CONCRETE	1363	0.95
ROOF	15408	0.95
SYNTHETIC TRACK	26690	0.95
LANDSCAPING	38246	0.10
GRAVEL	8359	0.50
TOTAL	130734	0.67

SOUTH EAST STORM WATER RUNOFF STORAGE CALCULATIONS

NOTE:
STORAGE CALCULATIONS BASED ON COS NNDDSM
ONSITE STORAGE REQUIREMENT.

Cd= 0.50 CITY OF SASKATOON DESIGN C FACTOR
Cp= 0.67 SITE DESIGN C FACTOR
A= 869-(200*Cd)
B= 33-(1055*Cd)

REQUIRE STORAGE
VOLUME(cu.m/ha)=A*(Cp-Cd)+B(Cp-Cd)^2
VOLUME(cu.m)= 1522 cu.m.

SURFACE STORAGE PROVIDED= 1936 cu.m.
PIPE STORAGE PROVIDED= 72 cu.m.
MANHOLE STORAGE PROVIDED= 107 cu.m.
TOTAL STORAGE PROVIDED= 2091 cu.m.

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PROFESSIONAL ENGINEER
RJR
R. J. ROGAL
MEMBER 15426
17 11 29
YR. MN. DAY
SASKATCHEWAN

LEGEND:
- EASEMENT
- FENCE LINE
- BOUNDARY LINE
- ASPHALT AREA
- CONCRETE AREA
- EXIST. BUILDING AREA
- PROPOSESD BUILDING AREA
- LANDSCAPE AREA
- GRAVEL AREA
- SYNTHETIC TRACK

Association of Professional Engineers & Geoscientists of Saskatchewan
CERTIFICATE OF AUTHORIZATION
CATTERALL & WRIGHT
Number C848
Permission to Consult held by:

Discipline	Sk. Reg. No.	Signature
CIVIL	15426	

SCALE VERIFICATION
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17/11/29	ISSUED FOR PERMIT

OWNER
ROBB KULLMAN

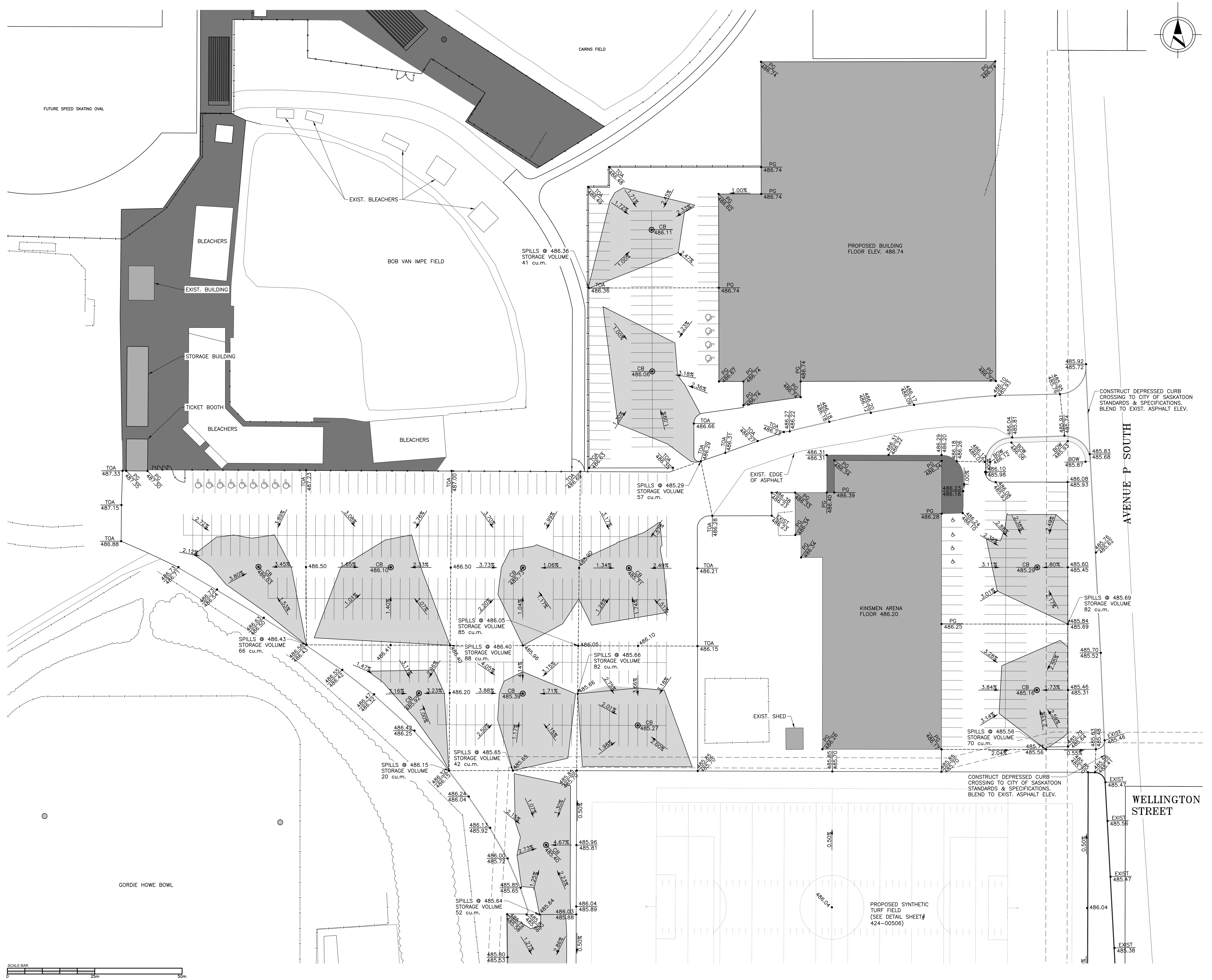
LOCATION
SASKATOON, SK

PROJECT
GORDIE HOWE SPORTS COMPLEX

SHEET TITLE
SOUTH EAST ON SITE STORAGE CALCULATION

SCALE	DESIGNED
1:2000	RJR
DRAWN	CHECKED
BSL/RJB	PLS
DATE	SHEET
17/08/10	1 of 7

DRAWING NUMBER 424-00501



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PROFESSIONAL ENGINEER
R. J. ROGAL
MEMBER 15426
17 11 29
YR. MN. DAY
SASKATCHEWAN

LEGEND:

X.XX%	DRAINAGE DIRECTION & GRADE
PG XXX.XX	PERIMETER GRADE ELEVATION
CB XXX.XX	CATCH BASIN RIM ELEVATION
EXIST XXX.XX	EXIST. ELEVATION
XXX.XX XXX.XX	TOP OF CURB ELEVATION TOP OF ASPHALT ELEVATION
TOA XXX.XX	EDGE OF ASPHALT ELEVATION
XXX.XX	DESIGN ELEVATION
	CATCH BASIN / CATCH BASIN MANHOLE
	RIDGE LINE
	EXIST. FENCE LINE
	EXIST. SHRUBS
	CONCRETE
	EXIST. SIDEWALK
	BUILDINGS

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OWNER
ROBB KULLMAN

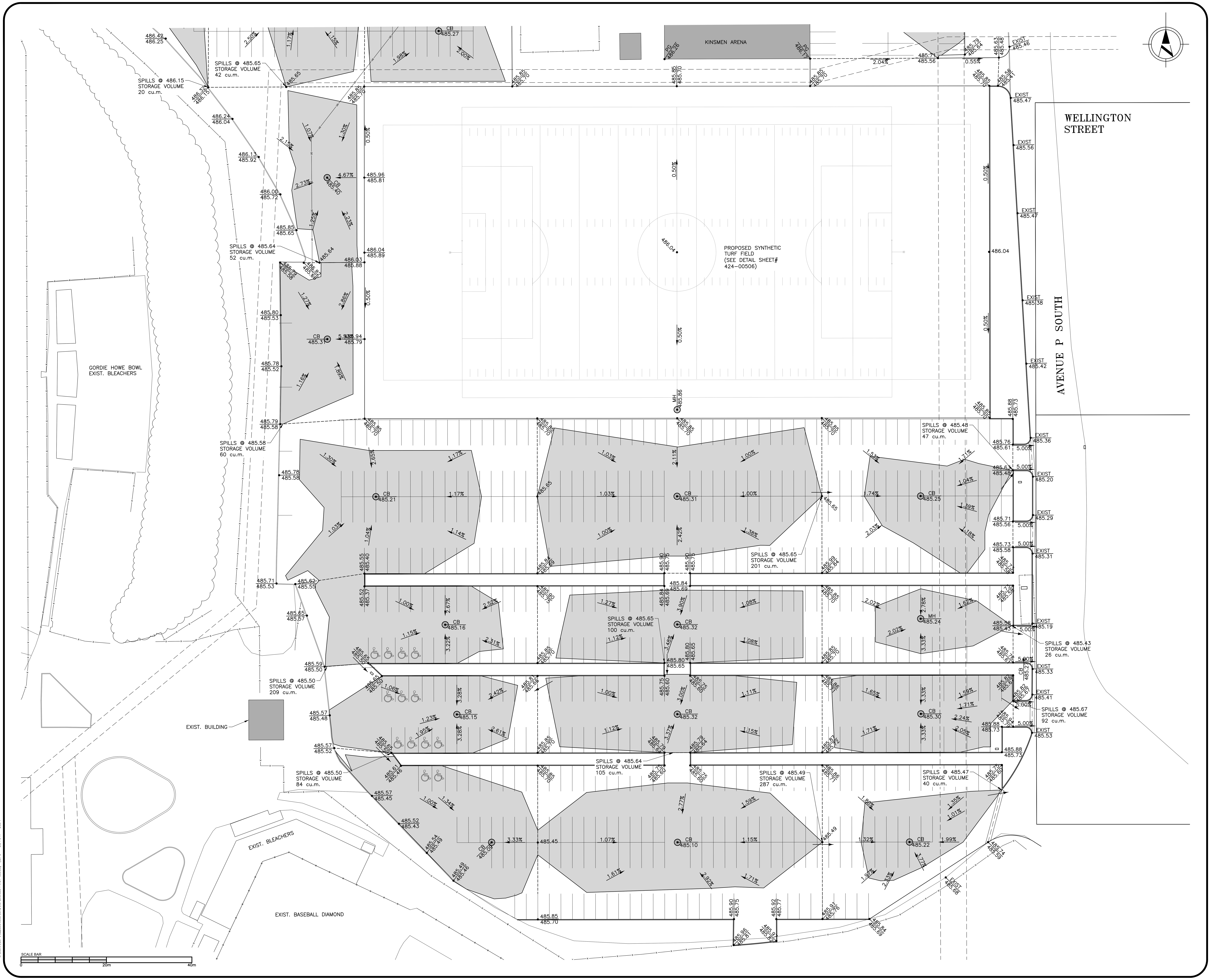
LOCATION
SASKATOON, SK

PROJECT
GORDIE HOWE
SPORTS COMPLEX

SHEET TITLE
SOUTH EAST SECTOR
GRADING PLAN
(NORTH HALF)

SCALE 1:500	DESIGNED RJR
DRAWN RJB	CHECKED PLS
DATE 17/09/28	SHEET 2 of 7

DRAWING NUMBER 424-00502



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PROFESSIONAL ENGINEER
R. J. ROGAL
MEMBER 15426
17 11 29
YR. MN. DAY
SASKATCHEWAN

LEGEND:

X.XX%	DRAINAGE DIRECTION & GRADE
PG XXX.XX	PERIMETER GRADE ELEVATION
CB XXX.XX	CATCH BASIN RIM ELEVATION
EXIST XXX.XX	EXIST. ELEVATION
XXX.XX / XXX.XX	TOP OF CURB ELEVATION / TOP OF ASPHALT ELEVATION
• XXX.XX	DESIGN ELEVATION
○	CATCH BASIN / CATCH BASIN MANHOLE
▫	CATCH BASIN IN CURB
	RIDGE LINE
	EXIST. FENCE LINE
	EXIST. SHRUB LINE
	EASEMENT
	EXIST. BUILDING

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ROBB KULLMAN

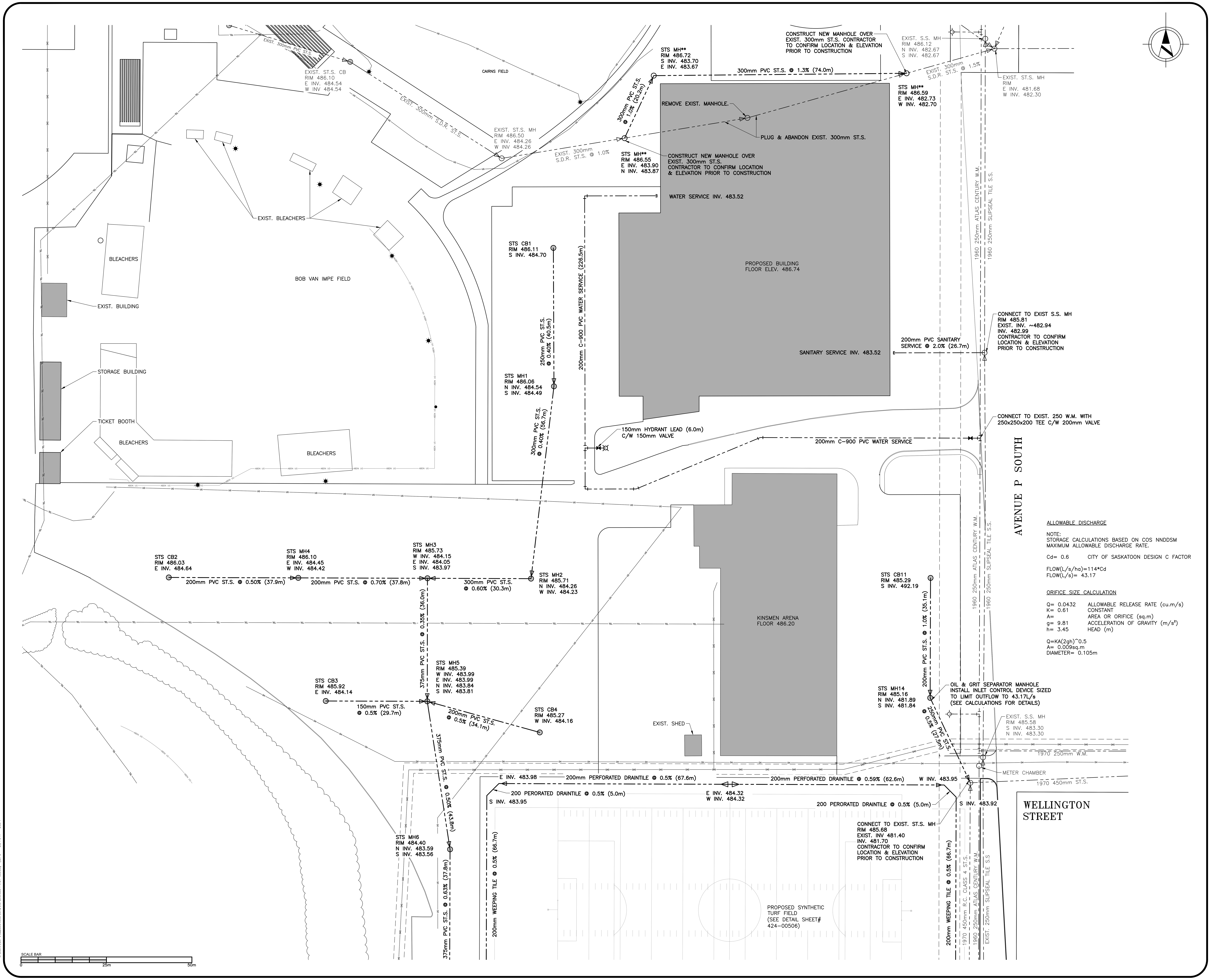
LOCATION
SASKATOON, SK

PROJECT
GORDIE HOWE SPORTS COMPLEX

SHEET TITLE
SOUTH EAST SECTOR GRADING PLAN (SOUTH HALF)

SCALE 1:400	DESIGNED RJR
DRAWN RJB	CHECKED PLS
DATE 17/09/28	SHEET 3 of 7

DRAWING NUMBER 424-00503



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RJR
R. J. ROGAL
MEMBER 15426
17 11 29
YR. MN. DAY
SASKATCHEWAN

LEGEND:

- EXIST. POWER POLE
- EXIST. LIGHT STANDARD
- MANHOLE
- CATCH BASIN \ CATCH BASIN MANHOLE
- EXIST. CATCH BASIN IN CURB
- FLOW DIRECTION
- EXIST. HYDRANT
- TEE
- VALVE
- EXIST. GAS LINE
- EXIST. PHONE LINE
- EXIST. UNDERGROUND POWER LINE
- EXIST. ABANDONED UNDERGROUND POWER LINE
- EASEMENT
- EXIST. FENCE
- EXIST. SHRUB LINE
- BUILDINGS

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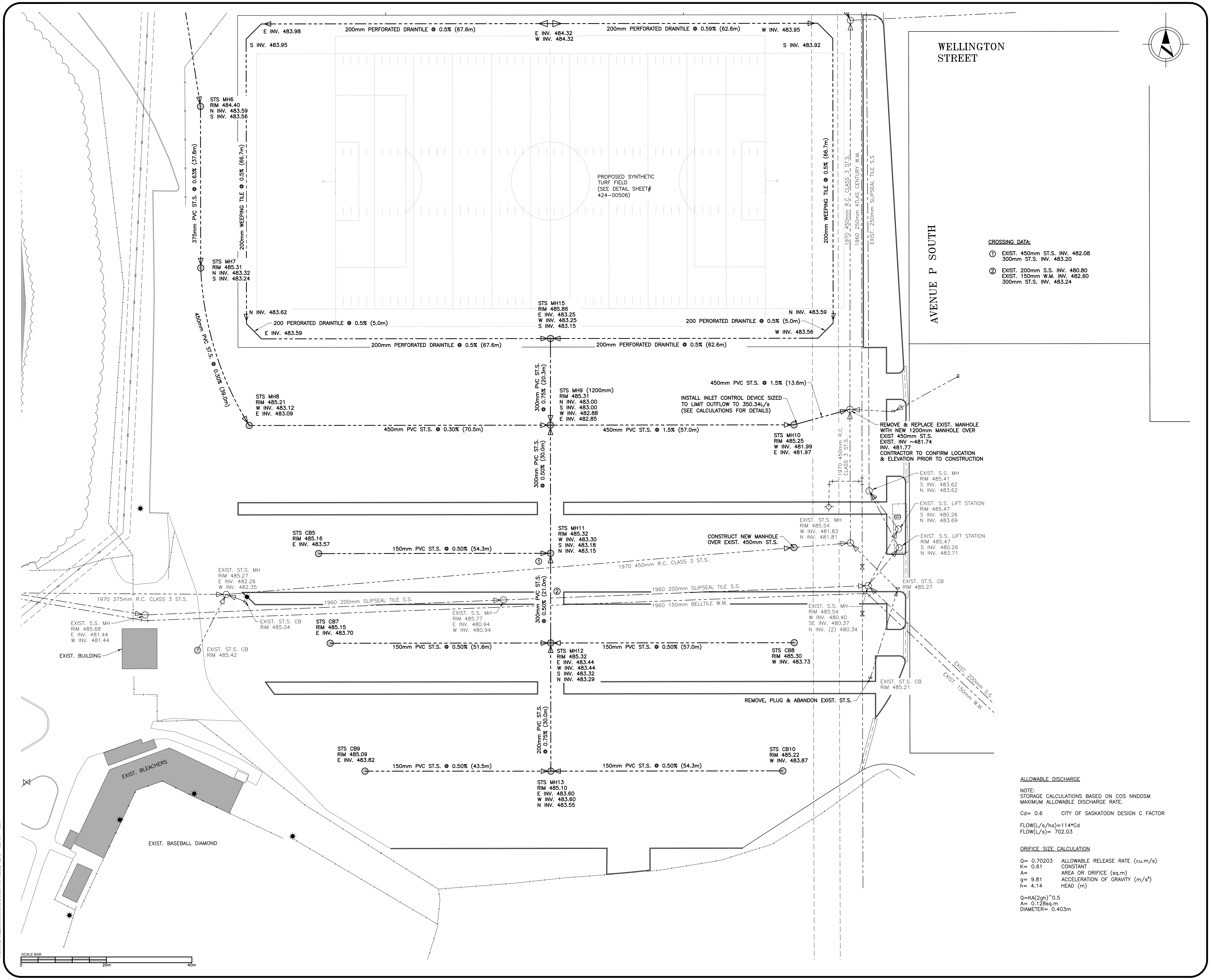
LOCATION
SASKATOON, SK

PROJECT
GORDIE HOWE SPORTS COMPLEX

SHEET TITLE
SOUTH EAST SECTOR SERVICING PLAN (NORTH HALF)

SCALE	DESIGNED
1:500	RJR
DRAWN	CHECKED
RJB	PLS
DATE	SHEET
17/09/28	4 of 7

DRAWING NUMBER 424-00504



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MEMBER 15426
17 11 29
YR. MN. DAY
SASKATCHEWAN

LEGEND:

- EXIST. POWER POLE
- EXIST. LIGHT STANDARD
- EXIST. POWER PEDESTAL
- MANHOLE
- CATCH BASIN \ CATCH BASIN MANHOLE
- EXIST. CATCH BASIN IN CURB
- FLOW DIRECTION
- EXIST. HYDRANT
- EXIST. TEE
- EXIST. BEND
- EXIST. GAS LINE
- EXIST. UNDERGROUND POWER LINE
- EASEMENT
- EXIST. FENCE
- EXIST. SHRUB LINE
- EXIST. BUILDINGS

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LOCATION
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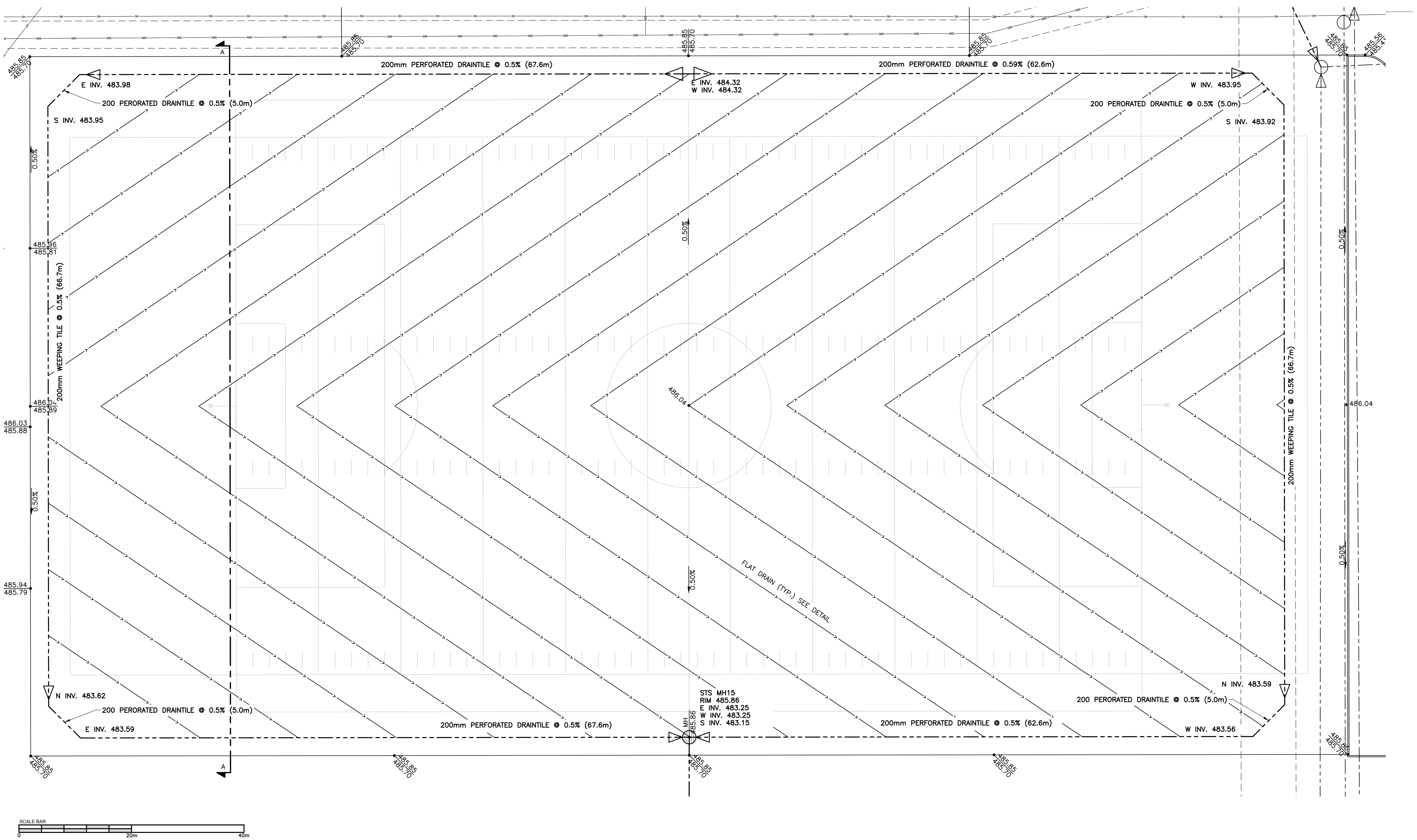
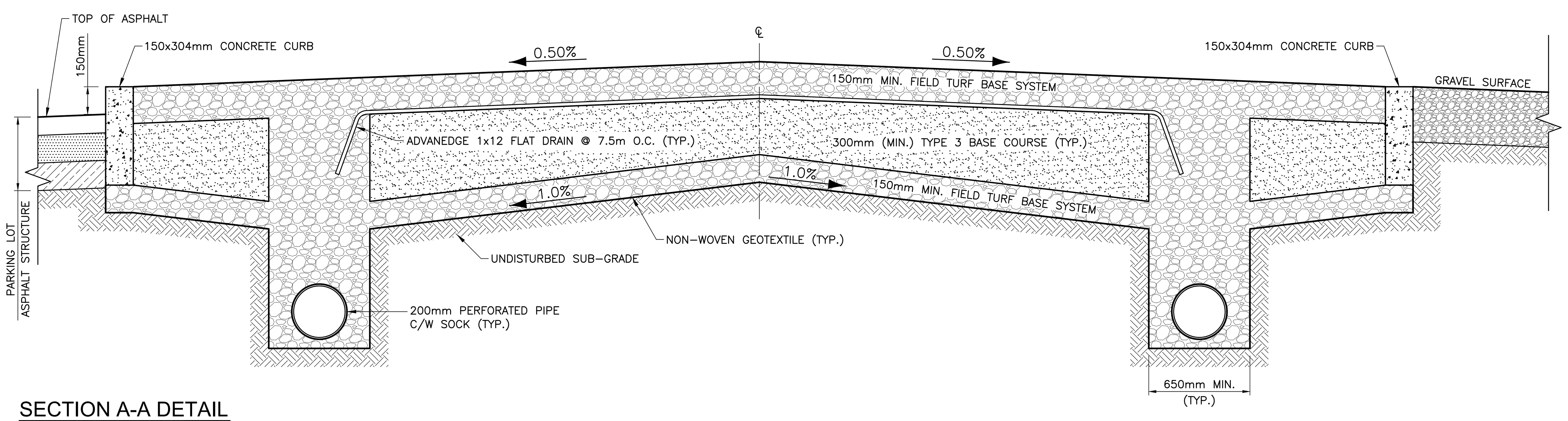
PROJECT
GORDIE HOWE SPORTS COMPLEX

SHEET TITLE
SOUTH EAST SECTOR SERVICING PLAN (SOUTH HALF)

SCALE	DESIGNED
1:400	RJR
DRAWN	CHECKED
RJB	PLS
DATE	SHEET
17/09/28	5 of 7

DRAWING NUMBER 424-00505





SECTION A-A DETAIL
SCALE: N.T.S

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PROFESSIONAL ENGINEER
RJR
R. J. ROGAL
MEMBER 15426
17 11 29
YR. MN. DAY
SASKATCHEWAN

LEGEND:
- EXIST. POWER POLE
- EXIST. LIGHT STANDARD
- EXIST. POWER PEDESTAL
- MANHOLE
- CATCH BASIN \ CATCH BASIN MANHOLE
- EXIST. CATCH BASIN IN CURB
- FLOW DIRECTION
- EXIST. HYDRANT
- EXIST. TEE
- EXIST. BEND
- EXIST. GAS LINE
- EXIST. UNDERGROUND POWER LINE
- EASEMENT
- EXIST. FENCE

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LOCATION
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PROJECT
GORDIE HOWE SPORTS COMPLEX

SHEET TITLE
SOUTH EAST SYNTHETIC TURF FIELD GRADING & SERVICING

SCALE 1:400	DESIGNED RJR
DRAWN RJB	CHECKED PLS
DATE 17/09/28	SHEET 6 of 7

DRAWING NUMBER 424-00506

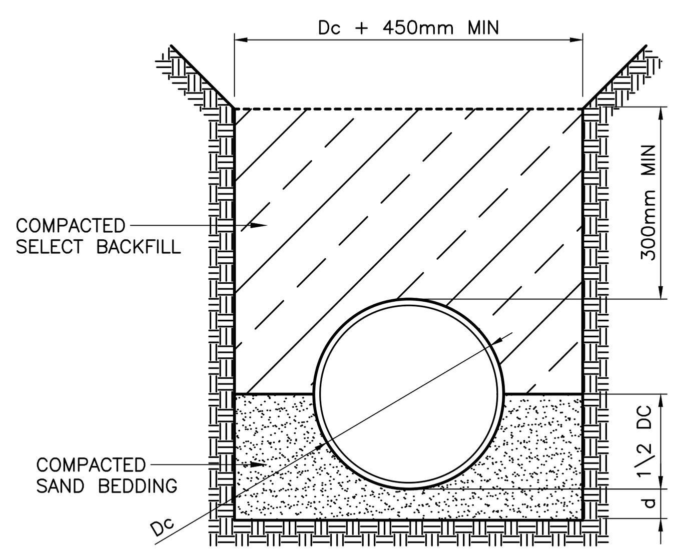
GENERAL
1. ALL CONSTRUCTION WITHIN CITY OF SASKATOON RIGHT OF WAYS TO BE COMPLETED IN ACCORDANCE WITH MUNICIPAL BYLAWS, STANDARDS & SPECIFICATIONS.
2. ALL MATERIALS ARE TO BE NEW AND CSA APPROVED.
3. CONTRACTOR IS RESPONSIBLE FOR OBTAINING LOCATES FOR ALL UTILITIES AND CONTACT UTILITY COMPANIES PRIOR TO CONSTRUCTION.
4. ALL ELEVATIONS OF EXISTING INFRASTRUCTURE ARE APPROXIMATE AND SHOULD BE CONFIRMED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY ERRORS SHOULD BE REPORTED TO THE CONSULTANT IMMEDIATELY UPON DISCOVERY.
5. WATER AND SEWER SERVICES TO BE EXTENDED TO WITHIN 1.0M OF THE BUILDING. EXTENSION TO INSIDE BUILDING SHALL BE COMPLETED BY MECHANICAL CONTRACTOR IN ACCORDANCE WITH PLUMBING SPECIFICATIONS AND CODES AND AS DETAILED ON MECHANICAL DRAWINGS.

TRENCH EXCAVATION
1. REMOVE TOPSOIL FROM LINES OF TRENCHES PRIOR TO CONSTRUCTION.
2. EXCAVATE SUFFICIENTLY TO ALLOW FOR THE INSTALLATION OF PIPES, FITTINGS AND APPURTENANCES TO THE LINES, GRADES AND ELEVATIONS AS SHOWN ON THE DRAWINGS OR ESTABLISHED BY THE CONSULTANT IN THE FIELD. PIPES SHALL REST ON APPROVED COMPACTED GRANULAR MATERIAL (CLASS B BEDDING). OVER–EXCAVATION SHALL BE BROUGHT UP TO GRADE USING COMPACTED GRANULAR MATERIAL AT THE EXPENSE OF THE CONTRACTOR. TOPSOIL, BUSH AND GRAVEL SHALL BE REMOVED PRIOR TO TRENCHING AND STOCKPILED FOR FUTURE USE OR DISPOSED OF.
3. OBEY LAWS, RULES AND ORDINANCES RESPECTING EXCAVATION. TRENCHES SHALL BE SHEETED OR BRACED AS REQUIRED BY OCCUPATIONAL HEALTH & SAFETY REGULATIONS TO PROTECT LIFE, PROPERTY AND THE WORK. ALL COSTS INCURRED SHALL BE BORNE BY THE CONTRACTOR. OPEN V–CUT METHODS OF EXCAVATION MAY BE USED PROVIDED THE TRENCH SIDES MEET REGULATIONS.
4. THE MAXIMUM TRENCH WIDTH AT THE TOP OF THE PIPE SHALL BE:
A. PIPE 900mm NOMINAL DIAMETER AND OVER; THE OUTSIDE DIAMETER OF THE PIPE PLUS 600mm.
B. PIPES UNDER 900mm NOMINAL DIAMETER; THE OUTSIDE DIAMETER OF THE PIPE PLUS 400mm, EXCEPT THE CONTRACTOR WILL NOT BE REQUIRED TO EXCAVATE A TRENCH LESS THAN 900mm WIDE.
5. REPLACE UNSTABLE FOUNDATION MATERIAL WITH COMPACTED GRANULAR, OR OTHER SPECIAL FOUNDATION AS REQUIRED AND APPROVED BY THE CONSULTANT. THIS SHALL BE CLASSIFIED AS EXTRA WORK UNDER THE TERMS OF THE CONTRACT. DEWATER EXCAVATIONS. NO EXTRA SHALL BE ALLOWED FOR WET EXCAVATION.
6. USE OF THE NEW PIPE FOR DEWATERING SHALL BE DONE ONLY ON THE APPROVAL OF THE CONSULTANT.
7. UNSUITABLE BACKFILL MATERIAL SUCH AS ROCKS AND CHUNKS OF CONCRETE AND MASONRY OVER 200mm IN DIAMETER SHALL BE HAULED FROM THE SITE AND DISPOSED OF.
8. CLEARANCE BETWEEN ROCKS LEFT IN PLACE IN THE TRENCH AND THE WALL OF THE PIPE SHALL BE A MINIMUM OF 150mm, THE SPACE BETWEEN THE ROCK AND THE PIPE SHALL BE FILLED WITH SELECTED AND COMPACTED MATERIAL.

BACKFILLING
1. INITIAL BACKFILLING TO 300mm ABOVE THE PIPE SHALL BE COMPACTED SELECT BACKFILL.
2. ABOVE THE 300mm LAYER, THE BACKFILL SHALL BE CLASS II. APPROVED EXCAVATED MATERIAL SHALL BE PLACED IN MAXIMUM 150mm LIFTS AND COMPACTED TO A MINIMUM OF 98% OF THE STANDARD PROCTOR DENSITY USING MECHANICAL COMPACTION EQUIPMENT.
3. STONES OVER 200mm IN DIAMETER, CHUNKS OF CONCRETE, ORGANIC OR FROZEN MATERIAL OR OTHER DEBRIS SUCH AS BRUSH AND ROOTS ARE NOT ALLOWED IN THE BACKFILL.
4. WHERE UTILITY PIPES CROSS EACH OTHER, THE MATERIAL BETWEEN THE PIPES SHALL BE BASE GRAVEL COMPACTED TO ELIMINATE SETTLEMENT.
5. ANY OPEN TRENCHES MUST BE APPROPRIATELY SECURED AND MARKED ACCORDING TO RULES AND REGULATIONS IN FORCE FOR THE SAFETY OF PEDESTRIANS AND VEHICLES.
6. UPON COMPLETION OF THE WORK REMOVE ALL UNUSED OR DAMAGED MATERIAL AND OTHER CONSTRUCTION DEBRIS FROM THE SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRS REQUIRED DUE TO SETTLEMENT OF THE TRENCH DURING THE MAINTENANCE PERIOD.

WATER
1. ALL WATER PIPE AS SPECIFIED ON DRAWINGS.
2. MINIMUM COVER ON ALL WATER MAINS IS TO BE 2.8m. PRESSURE TESTING AND CHLORINATION OF ALL MAINS IN ACCORDANCE WITH THE CITY OF SASKATOON AND HEALTH DEPARTMENT REQUIREMENTS.
3. INSTALL CONCRETE THRUST BACKING AS REQUIRED FOR FITTINGS AND TEES $0.4m^2$ TO UNDISTURBED TRENCH WALL. PIPE BEDDING SHALL BE CLASS B AS DETAILED.
4. BACTERIAL TESTING SHALL BE COMPLETED IN ACCORDANCE WITH SASKATCHEWAN WATER SECURITY AGENCY REGULATIONS.

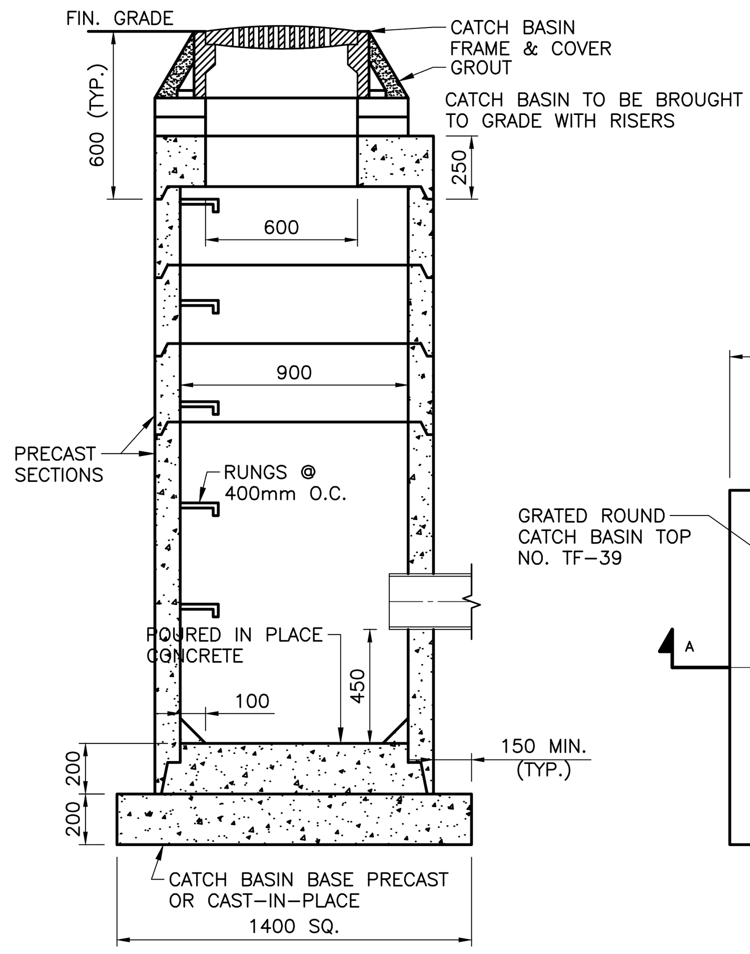
SANITARY/STORM SEWER
1. SANITARY SEWER SERVICE 150mm OR SMALLER SHALL BE SDR28 PVC. SEWER PIPING LARGER THAN 150mm IN DIAMETER SHALL BE SDR35 PVC. ALL PIPE SHALL BE COMPLETE WITH FACTORY INSTALLED RUBBER GASKET JOINTS.
2. PIPE BEDDING SHALL BE CLASS B AS DETAILED.
3. MANHOLE BARRELS AND CONES SHALL CONFORM TO ASTM C478. JOINTS SHALL BE SUITABLE FOR EITHER RUBBER GASKETS OR MASTIC SEALANTS. USE PRECAST BASE SECTIONS. ALUMINIUM STEPS SHALL BE CAST INTO THE SECTIONS USING POLYETHYLENE ANCHORS. CONE SECTIONS SHALL BE ECCENTRIC AND REDUCE TO 600mm. MINIMUM CONCRETE STRENGTH SHALL BE 27.6MPa IN 28 DAYS.
5. REINFORCING STEEL FOR BASE SHALL BE 10M REINFORCING RODS PLACED 150mm O.C. EACH WAY.
6. ALL CONCRETE SHALL BE PLACED MONOLITHICALLY.



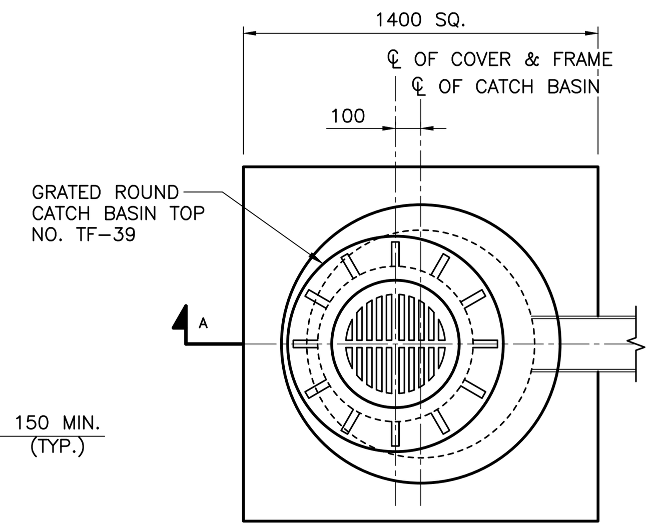
NOTES:
1. SELECT BACKFILL TO BE FREE OF ALL LUMPS, STONES AND SUBSTANCES WHICH COULD REACT CHEMICALLY WITH PIPE MATERIAL.
2. PNEUMATIC OR MECHANICAL EQUIPMENT SHALL BE USED TO COMPACT THE BEDDING MATERIAL AND SELECT BACKFILL MATERIAL.
3. MINIMUM BEDDING REQUIREMENT FOR CLASS B SOIL TYPES.

BEDDING MAT. BELOW PIPE		LEGEND
D	d(MIN)	Dc = OUTSIDE DIAMETER
450mm & SMALLER	80mm	D = INSIDE DIAMETER
		d = DEPTH OF BEDDING BELOW PIPE

PIPE BEDDING DETAIL
SCALE: NTS



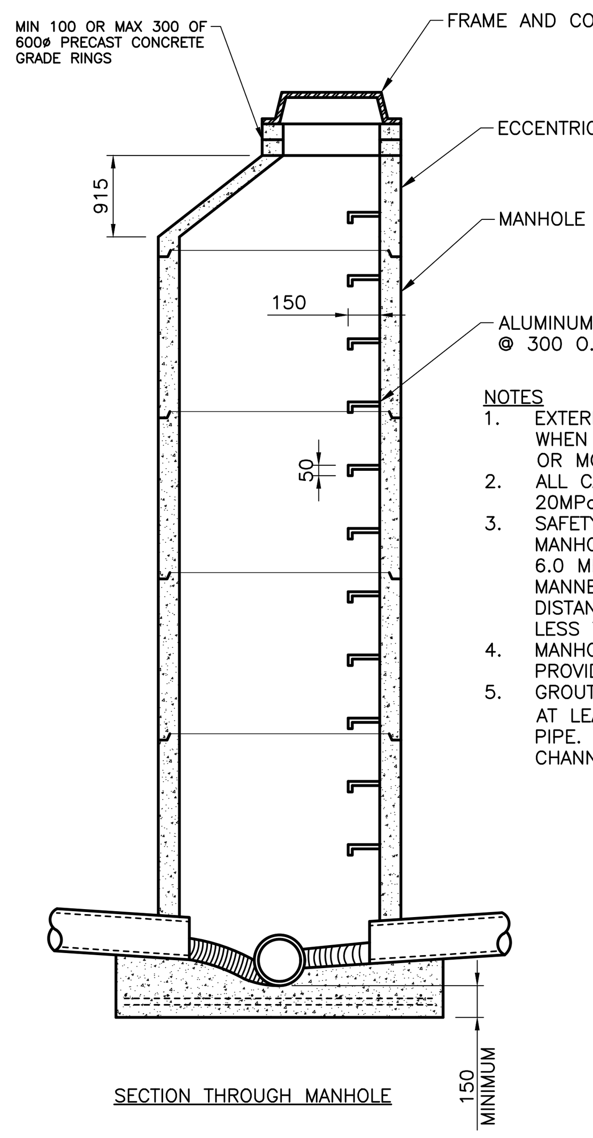
SECTION A
SCALE: N.T.S.



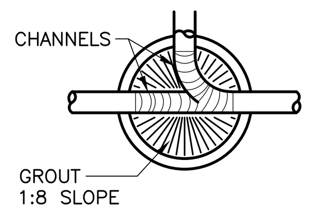
PLAN VIEW
SCALE: N.T.S.

NOTE:
1. FOR POURED IN PLACE BASE SET C.B. BARREL IN WET CONCRETE
2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

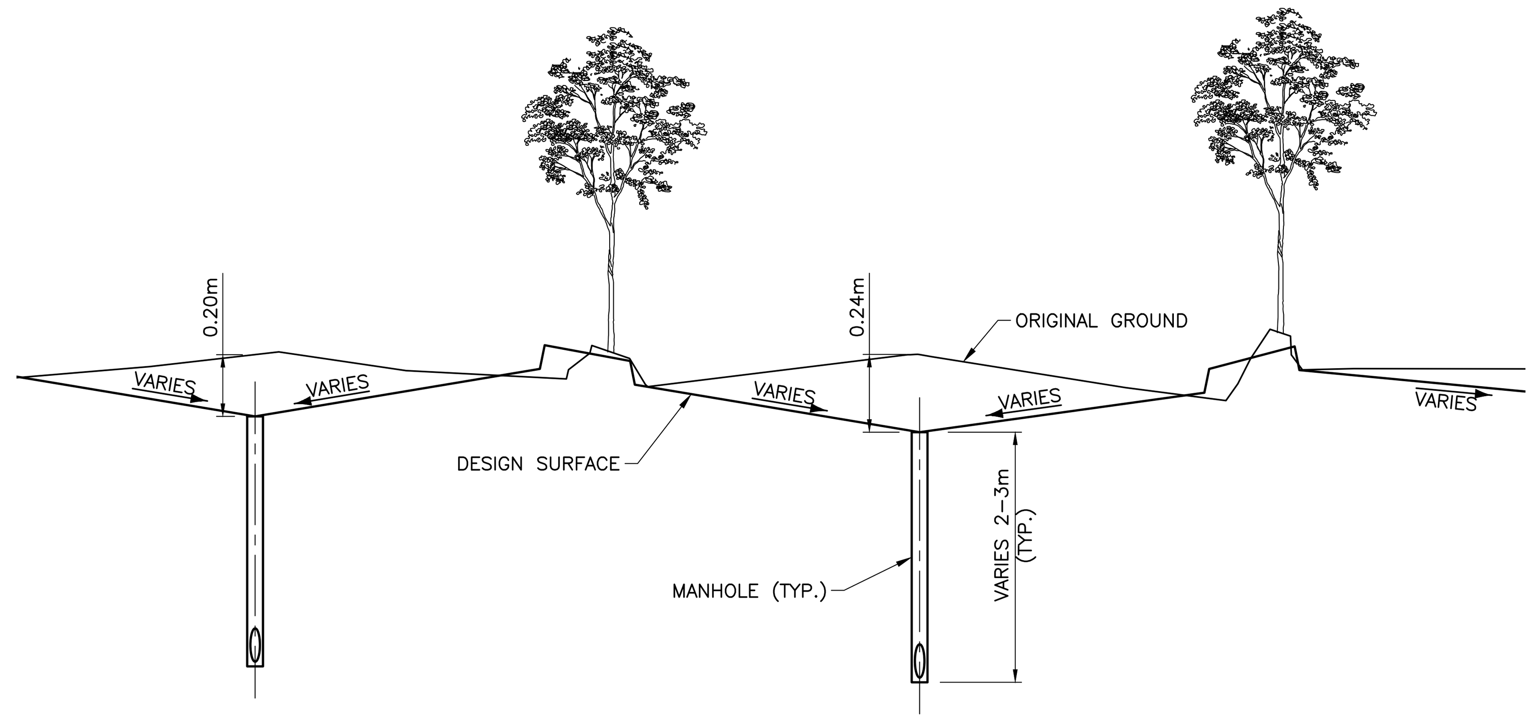
900mm PRE-CAST CATCH BASIN
SCALE: NTS



NOTES
1. EXTERNAL DROP STRUCTURE REQUIRED WHEN INVERT OF INLET PIPE IS 750mm OR MORE ABOVE INVERT OF OUTLET PIPE.
2. ALL CAST IN PLACE CONCRETE TO BE 20MPa CSA TYPE 50.
3. SAFETY PLATFORMS REQUIRED FOR MANHOLES WITH DEPTHS GREATER THEN 6.0 METERS & ARRANGE IN SUCH A MANNER SO THAT NO VERTICAL FALL DISTANCE EXCEEDS 5.0 METERS OR IS LESS THEN 2.4 METERS.
4. MANHOLE RUNGS SHALL BE ORIENTED TO PROVIDE A CLEAR LANDING AT BASE.
5. GROUT FLOW CHANNELS IN MANHOLE BASE AT LEAST 1/2 OF THE DIAMETER OF THE PIPE. SLOPE M.H. FLOOR TOWARDS FLOW CHANNELS.



MANHOLE DETAIL
SCALE: NTS



TYPICAL PARKING MEDIAN CROSS SECTION
SCALE: NTS

NOTE:
–VERTICAL SCALE IS 5 TIMES EXAGGERATED

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PROFESSIONAL ENGINEER
RJR
R. J. ROGAL
MEMBER 15426
17 11 29
YR. MN. DAY
SASKATCHEWAN

SCALE VERIFICATION

WHEN DRAWING IS PLOTTED FULL SIZE THIS LINE IS 60mm IN LENGTH.

DATE	REVISION
17/11/29	ISSUED FOR PERMIT

OWNER
ROBB KULLMAN

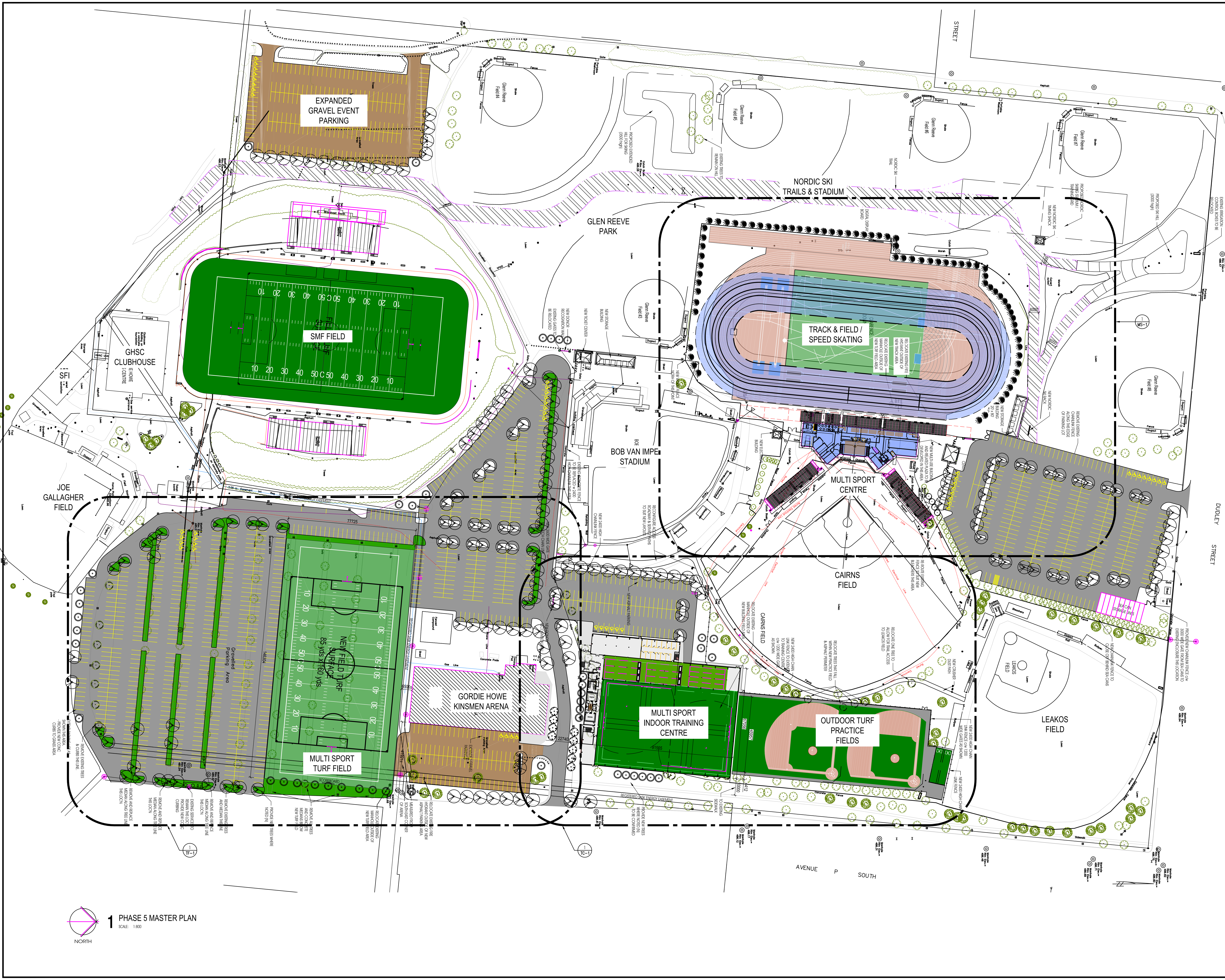
LOCATION
SASKATOON, SK

PROJECT
GORDIE HOWE SPORTS COMPLEX

SHEET TITLE
DETAILS

SCALE NTS	DESIGNED RJR
DRAWN RJB	CHECKED PLS
DATE 17/09/28	SHEET 7 of 7

DRAWING NUMBER 424-00507



1 PHASE 5 MASTER PLAN

SCALE: 1:800

NOTES:

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REVISIONS

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0	ISSUED FOR REVIEW	DEC 22, 2017

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December 22, 2017

FRIENDS OF THE BOWL FOUNDATION

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CONSULTANT

PROJECT

GORDIE HOWE SPORTS COMPLEX - PHASE 5

SASKATOON, SK

DRAWING NAME

OVERALL SITE PLAN

DRAWN B.BESSEL

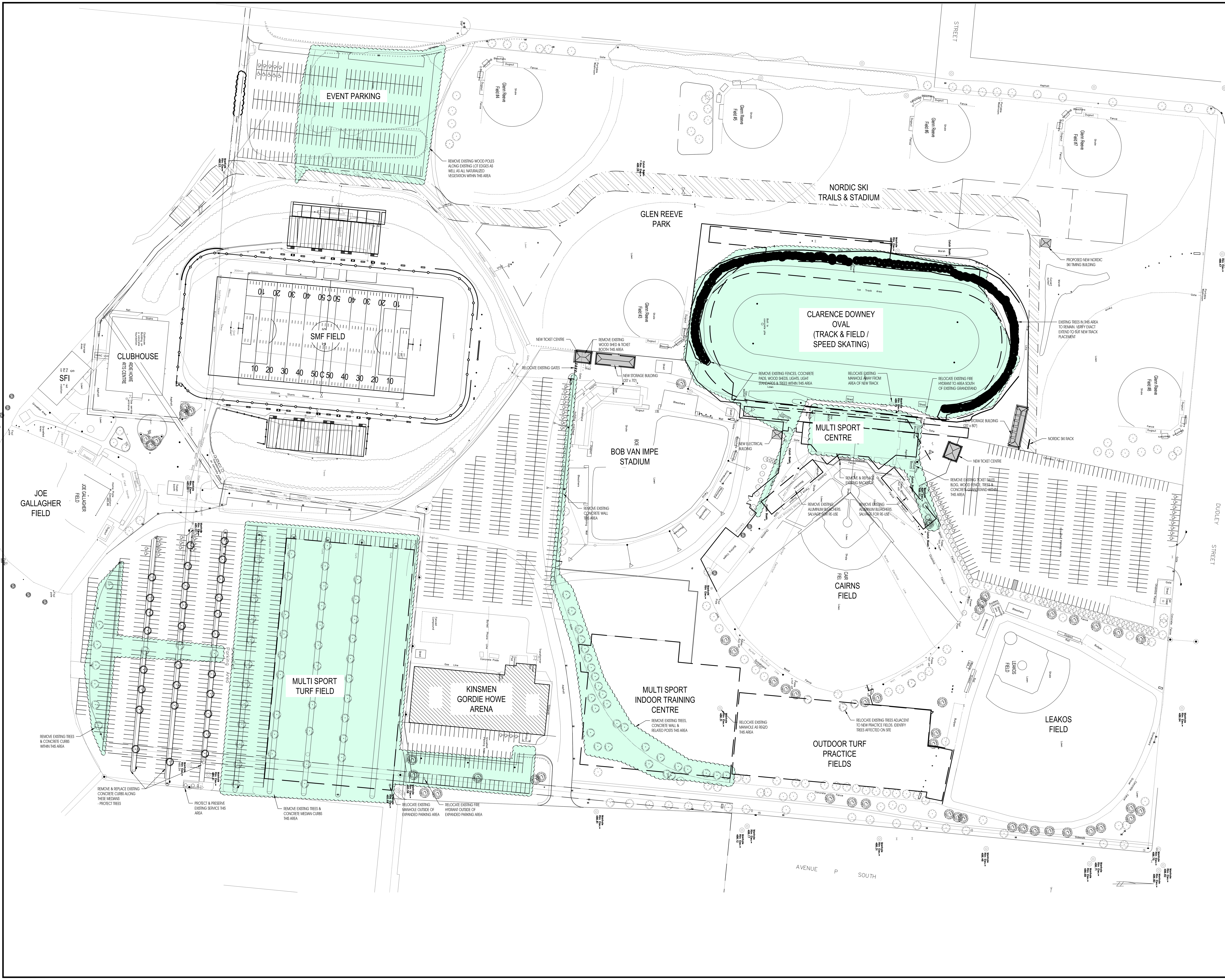
DATE OCT 2017

FILE 17-938

CHECKED

DRAWING

MP-1



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REVISIONS

No.	DESCRIPTION	DATE
0	ISSUED FOR SITE DEMOLITION ONLY	OCT 24, 2017
1	ISSUED FOR REVIEW	DEC 22, 2017

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PROJECT

GORDIE HOWE SPORTS COMPLEX - PHASE 5

SASKATOON, SK

DRAWING NAME

SITE DEMOLITION PLAN

DRAWN B.BESSEL

DATE OCT 2017

FILE 17-938

CHECKED

DRAWING

MP-D1

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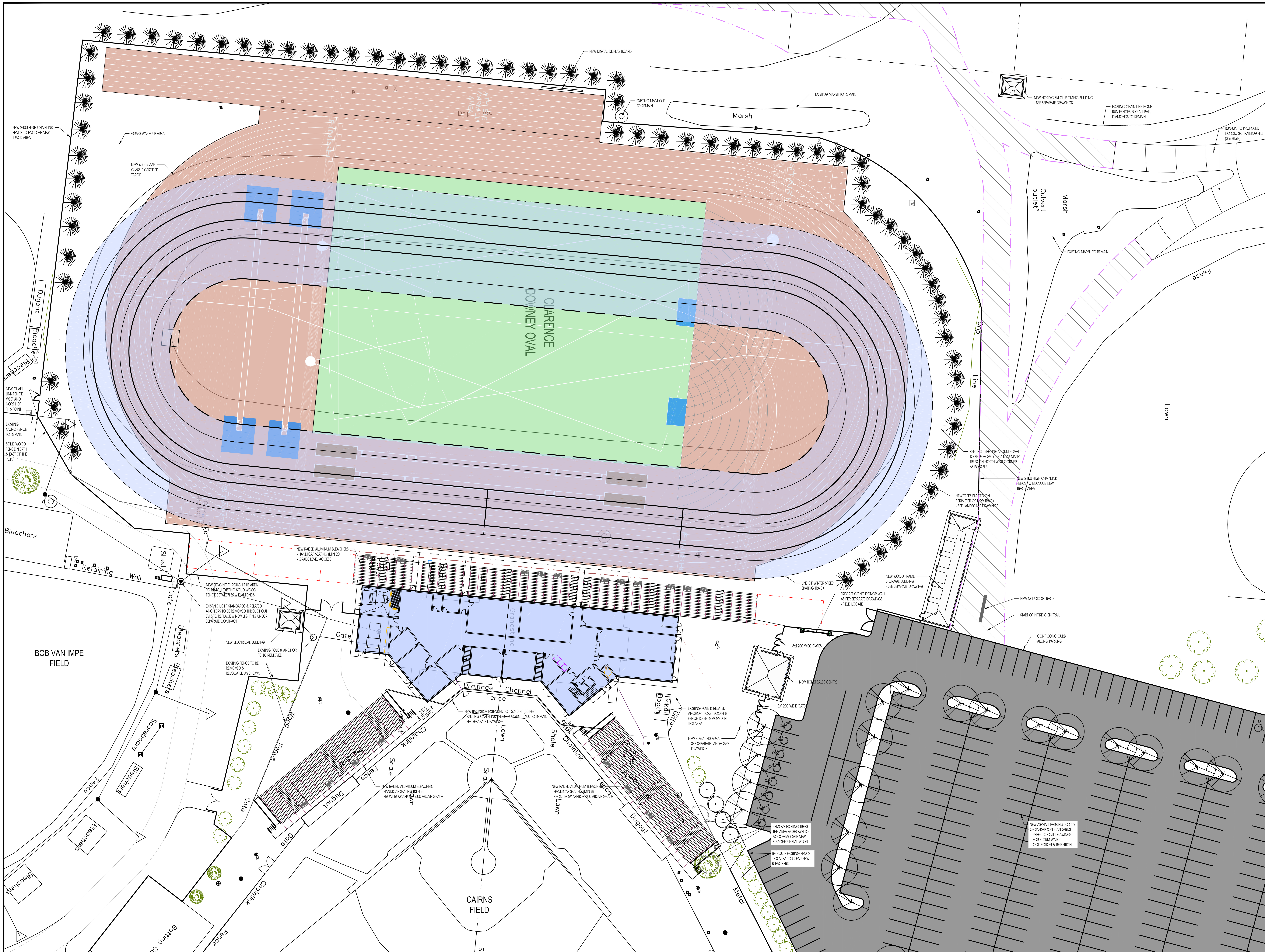

1 PHASE 5 - MULTI-SPORT CENTRE WITH TRACK & SKATING FACILITES
SCALE: 1:300

Z:\2017\17-938 Gordie Howe Sports Complex – Phase 5\Drawings\Site Master Plan\17-938 Master Plan over Survey Oct 2017.dwg (December 20, 2017 – 2:05pm)

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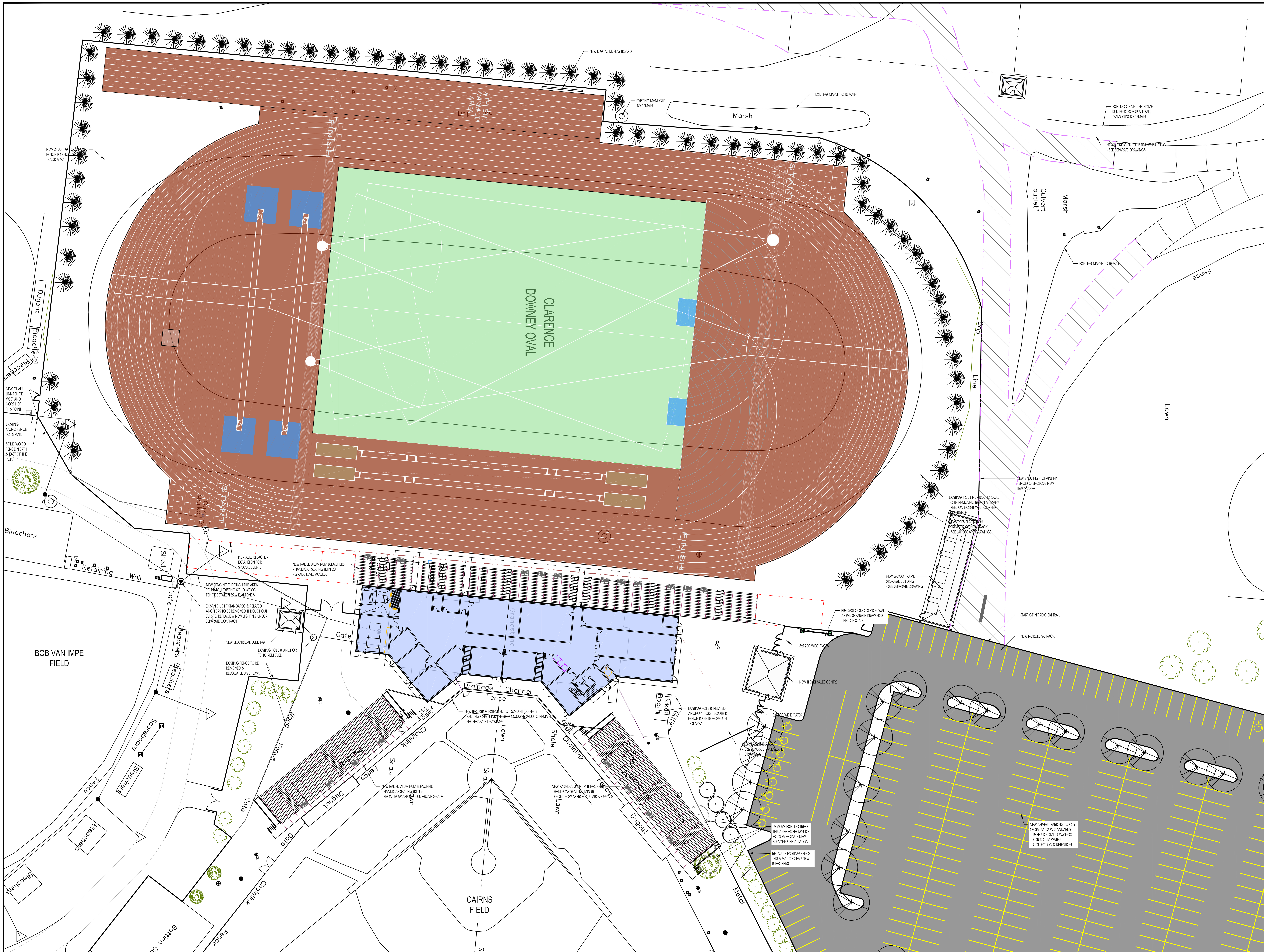
CONSULTANT

PROJECT
GORDIE HOWE SPORTS COMPLEX - PHASE 5
SASKATOON, SK

DRAWING NAME
PARTIAL SITE PLAN MULTI-SPORT CENTRE & TRACK & FIELD / SPEED SKATING TRACK

DRAWN B.BESSEL
DATE DEC 2017
FILE 17-938
CHECKED
DRAWING TS-1



1 PHASE 5 - MULTI-SPORT CENTRE WITH TRACK & SKATING FACILITES
SCALE: 1:300

NORTH

NOTES:

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REVISIONS

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December 4, 2017

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CONSULTANT

PROJECT

GORDIE HOWE SPORTS COMPLEX - PHASE 5

SASKATOON, SK

DRAWING NAME

PARTIAL SITE PLAN MULTI-SPORT CENTRE & TRACK & FIELD

DRAWN	B.BESSEL	DRAWING
DATE	DEC 2017	MS-2
FILE	17-938	
CHECKED		

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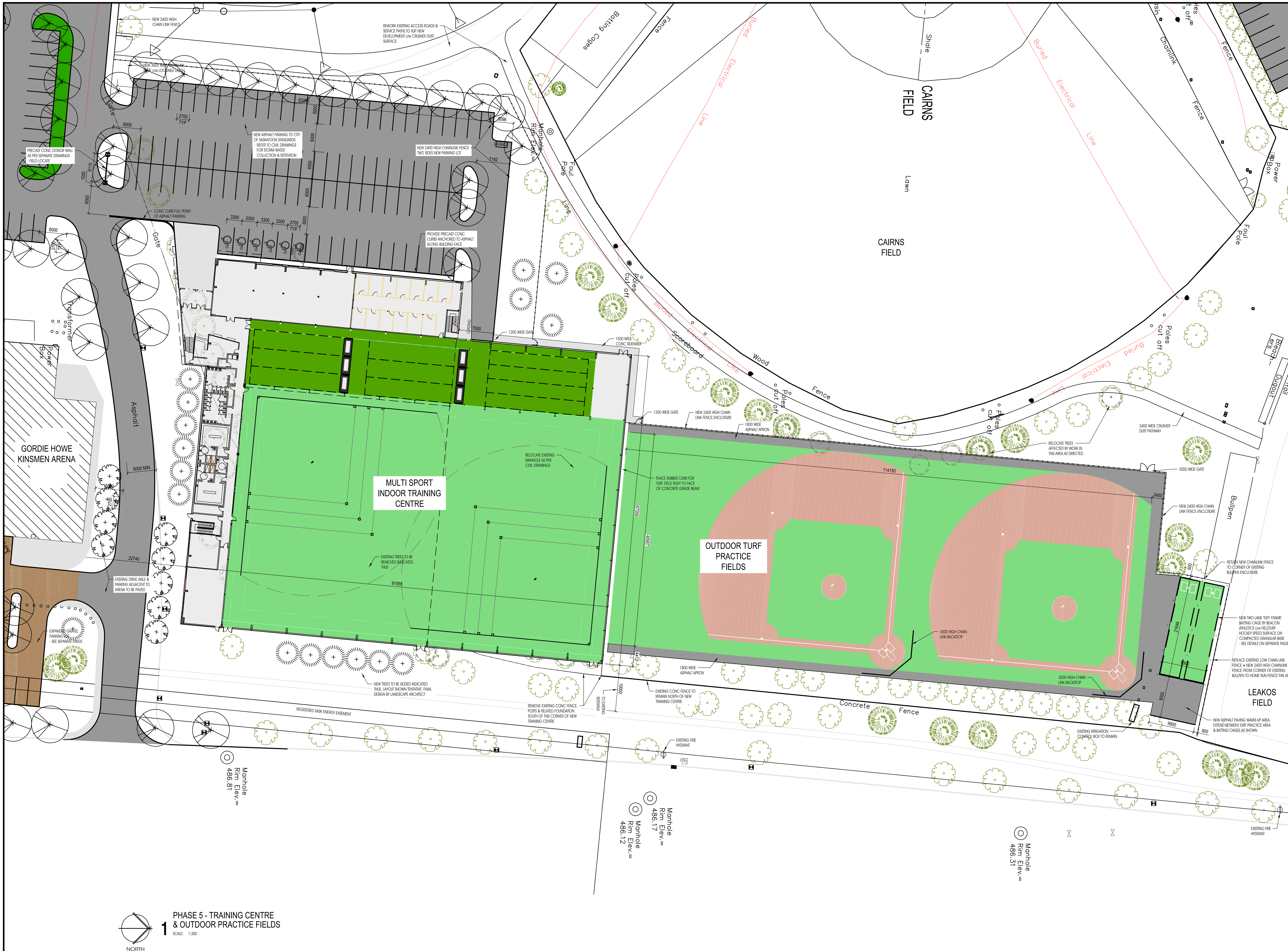

1 PHASE 5 - TRAINING CENTRE & OUTDOOR PRACTICE FIELDS

SCALE: 1:300

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CONSULTANT

PROJECT

GORDIE HOWE SPORTS COMPLEX - PHASE 5

SASKATOON, SK

DRAWING NAME

PARTIAL SITE PLAN
TRAINING CENTRE &
OUTDOOR PRACTICE FIELDS

DRAWN	B.BESSEL	DRAWING
DATE	OCT 2017	TC-1
FILE	17-938	
CHECKED		

1 PHASE 5 - MULTI-SPORT TURF FIELD & SOUTH PARKING LOT PLAN
SCALE: 1:300

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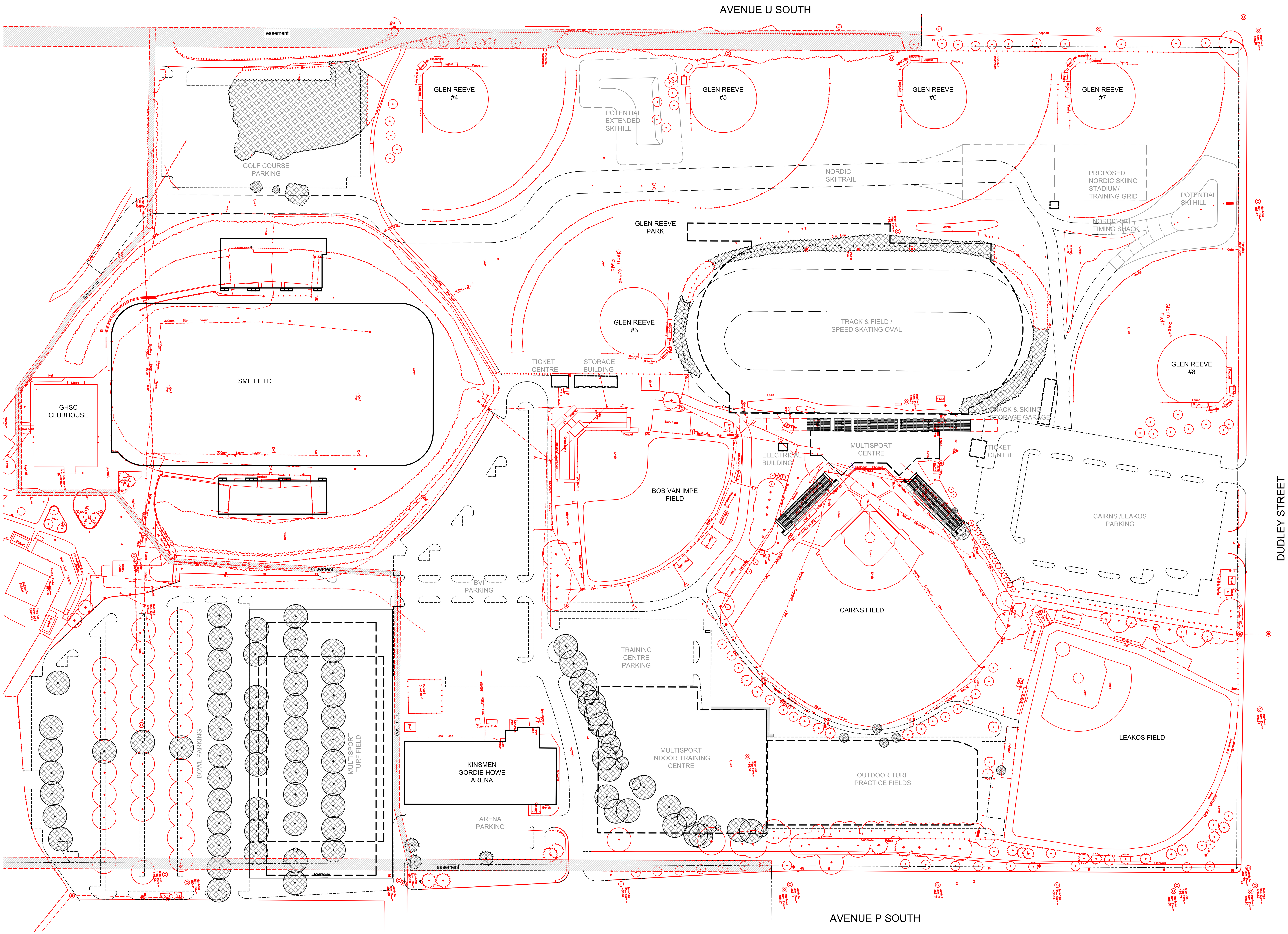
CONSULTANT

PROJECT
GORDIE HOWE SPORTS COMPLEX - PHASE 5
SASKATOON, SK

DRAWING NAME
PARTIAL SITE PLAN
MULTI-SPORT TURF FIELD & SOUTH PARKING LOT

DRAWN B.BESSEL
DATE OCT 2017
FILE 17-938
CHECKED
DRAWING TF-1



TREE REMOVALS

1:1000

0 5 10 20 30 50m

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REVISIONS

No.	DESCRIPTION	DATE
0	CITY & MEEWASIN REVIEW	2017-12-21

Existing conditions taken from Webb Surveys, Topography Plan, dated October 10, 2017.

CONIFEROUS TREES (126 ±) - to be removed

DECIDUOUS TREES (90) - to be removed

NATURAL AREAS (3095 m² ±) - to be removed

GENERAL OUTLINES OF PROPOSED DEVELOPMENT

FRIENDS OF THE BOWL FOUNDATION ™

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PRELIMINARY
NOT FOR CONSTRUCTION

CONSULTANT

CROSBY HANNA & ASSOCIATES

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COMMUNITY PLANNING

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PROJECT

GORDIE HOWE
SPORTS COMPLEX
PHASE 5

SASKATOON, SK

DRAWING NAME

TREE REMOVALS

DRAWN KS

DATE 2017-12-21

FILE 17-938 (CHA 17094)

CHECKED RC

DRAWING PL-0

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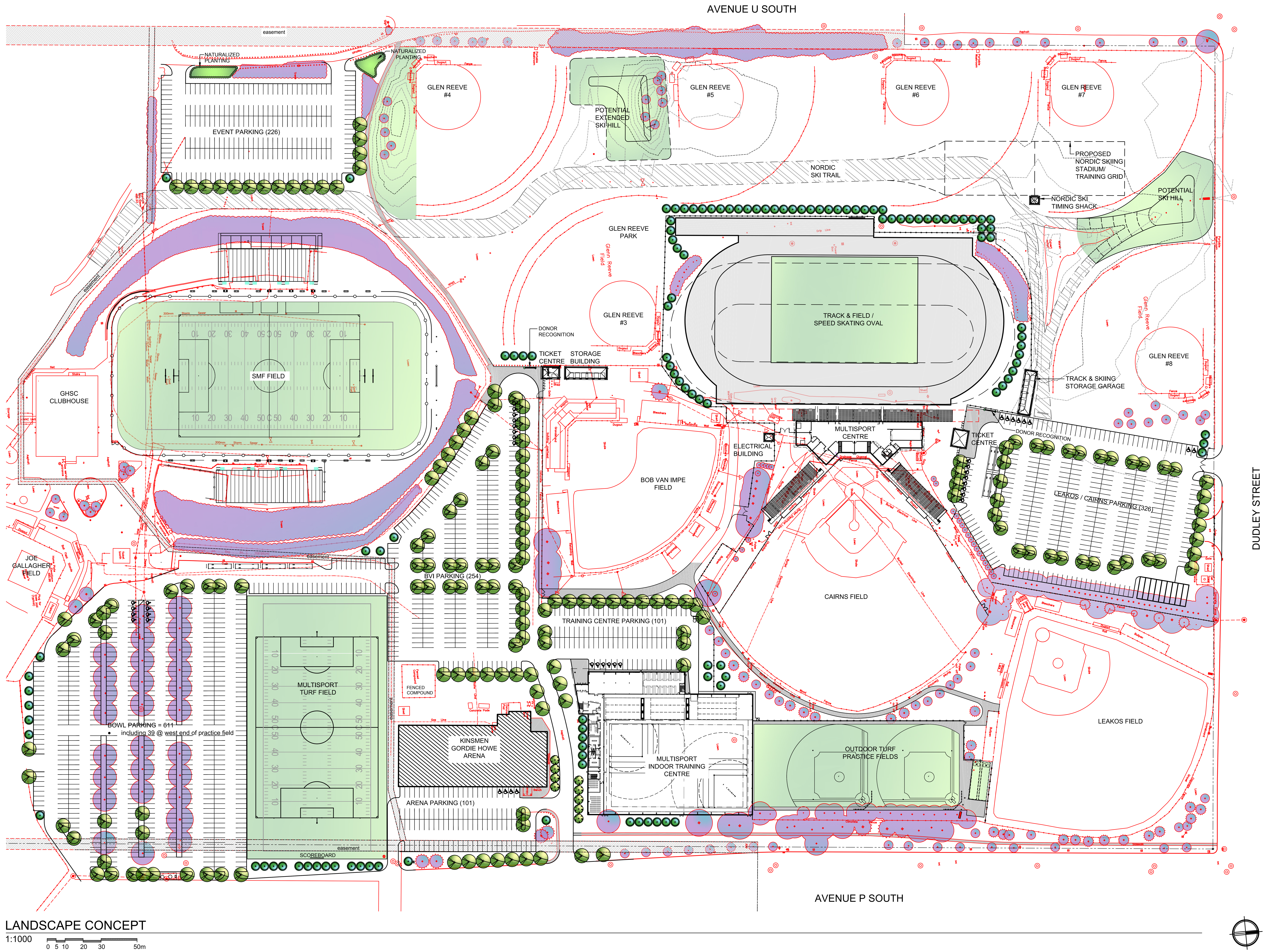

LANDSCAPE CONCEPT

1:1000

NOTES:

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REVISIONS

No.	DESCRIPTION	DATE
0	CITY & MEEWASIN REVIEW	2017-12-21

THIS IS AN INITIAL LANDSCAPE CONCEPT, SUBJECT TO REVISION AS PLANS EVOLVE AND ARE COORDINATED WITH OTHER DISCIPLINES.

EXISTING CONIFEROUS TREES TO REMAIN

EXISTING DECIDUOUS TREES TO REMAIN

EXISTING NATURALIZED VEGETATION TO REMAIN

PROPOSED CONIFEROUS TREES (113)
- approx. 13 fewer than removals

PROPOSED DECIDUOUS TREES (178)
- approx. 88 more than removals

PROPOSED NATURALIZED PLANTING (291 m² ±)
- approx. 2800m² less than removals

SITE PARKING:

• BOWL	611
• ARENA	101
• BVI	254
• TRAINING CENTRE	101
• EVENT	226
• LEAKOS/CAIRNS	326
TOTAL PARKING STALLS	1619
EXISTING PARKING STALLS	(1252)
ADDITIONAL PARKING STALLS	367

BARRIER FREE PARKING
- 17 required; 43 provided

FRIENDS OF THE BOWL FOUNDATION™

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PRELIMINARY
NOT FOR CONSTRUCTION

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PROJECT

GORDIE HOWE SPORTS COMPLEX PHASE 5
SASKATOON, SK

DRAWING NAME

LANDSCAPE CONCEPT

DRAWN	KS	DRAWING	
DATE	2017-12-21		
FILE	17-938 (CHA 17094)	PL-1	
CHECKED	RC		

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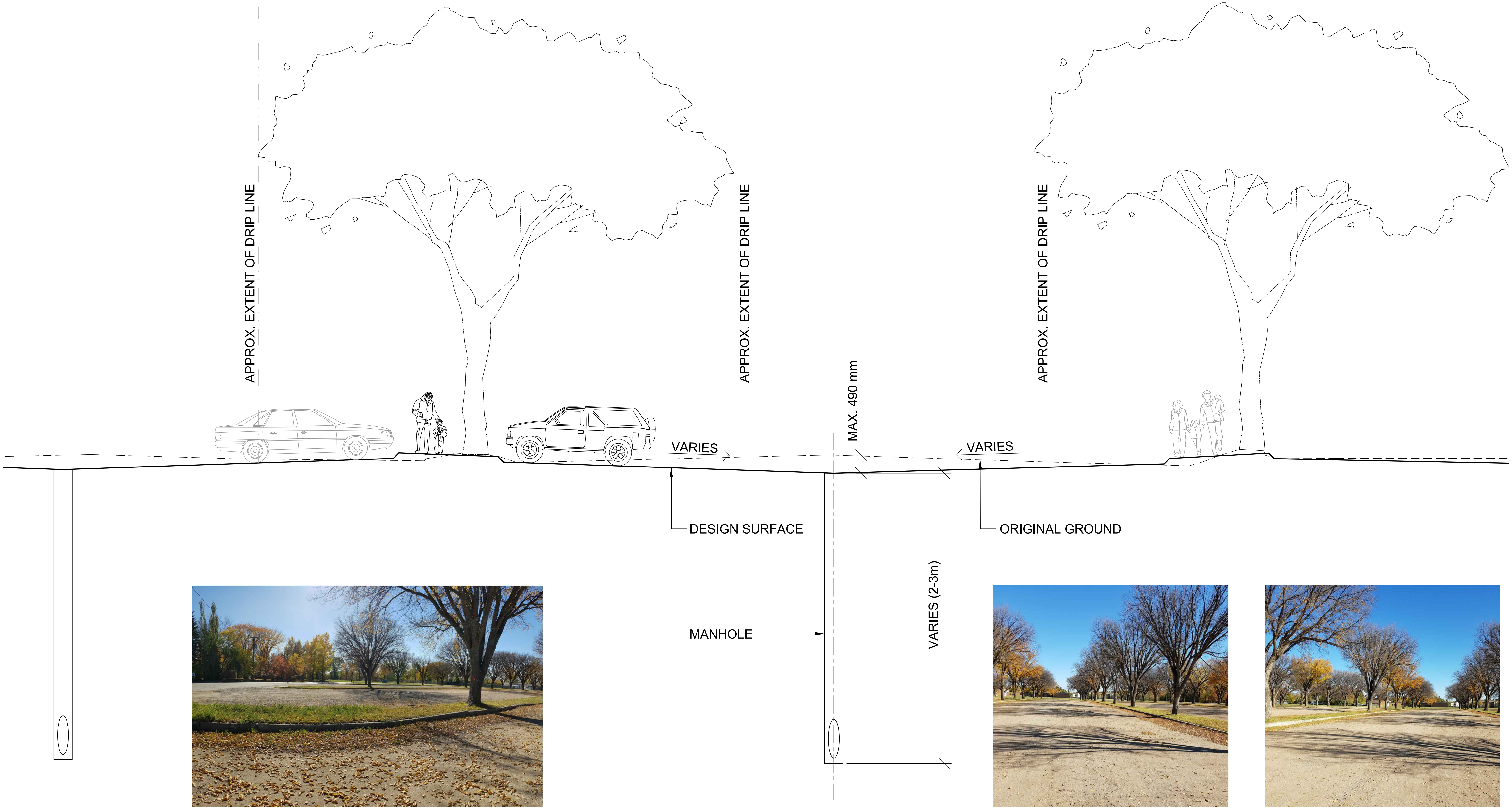

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GORDIE HOWE SPORTS COMPLEX - PHASE 5

Project Title

SECTION AT BOWL PARKING MEDIAN

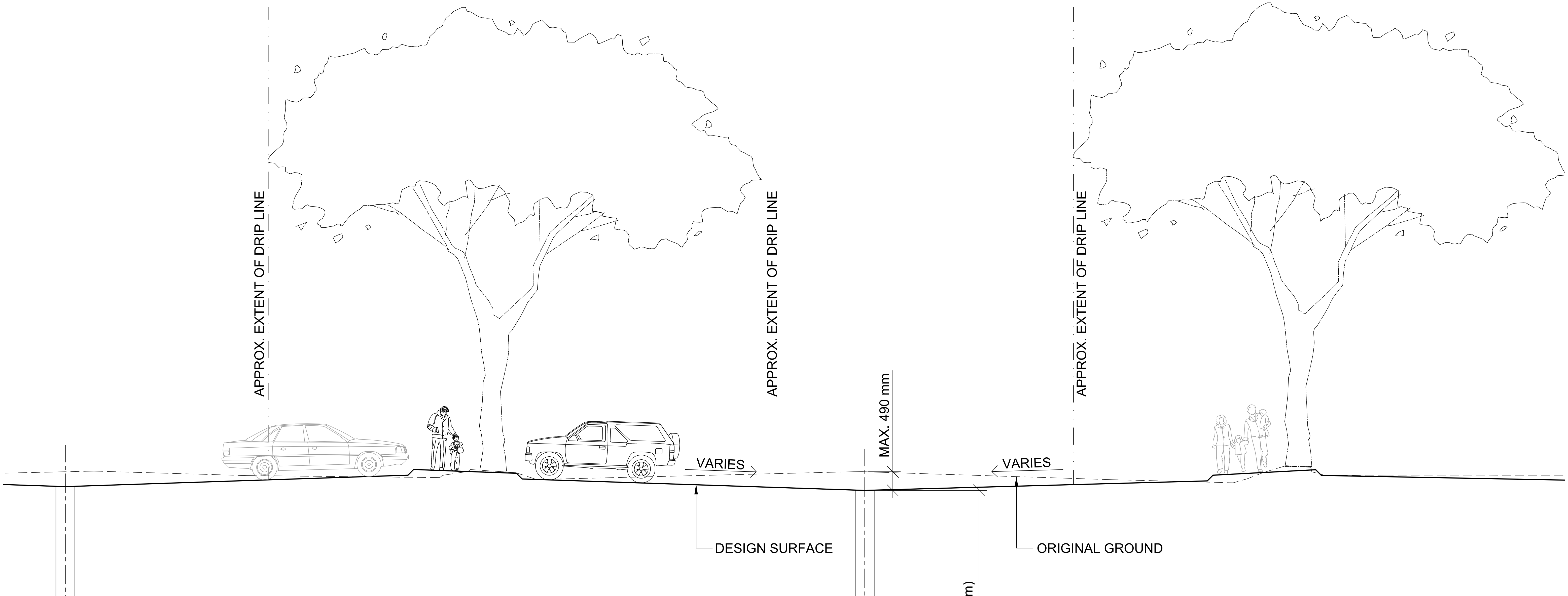
Drawing Title

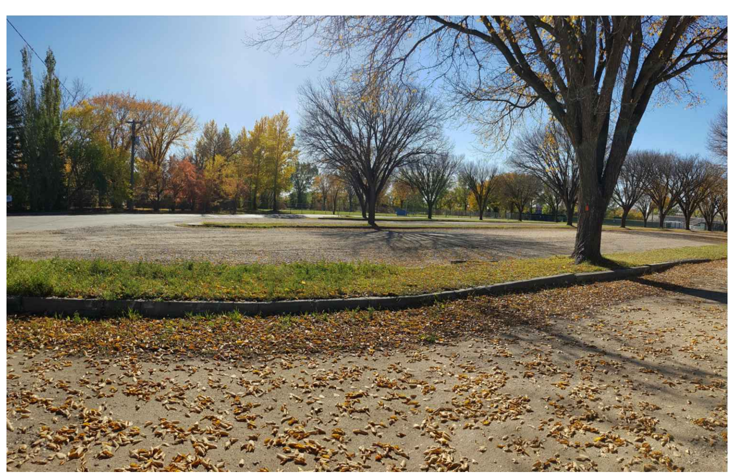
Drawn	KS	Checked	MT
Scale	1:100	Date	2017/12/21
Project No.	17094	Drawing	PL-2

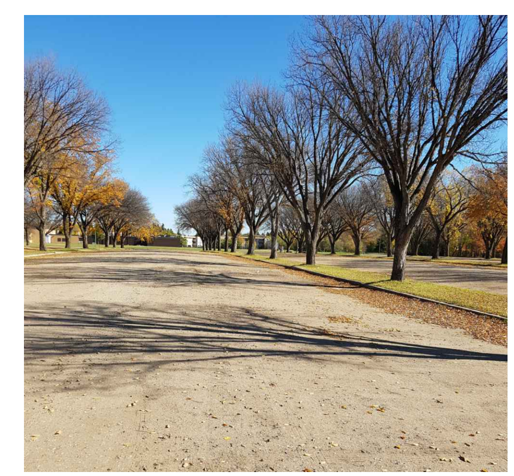
- SECTION BASED ON INFORMATION PROVIDED BY CATTERALL & WRIGHT 2017-12-19.

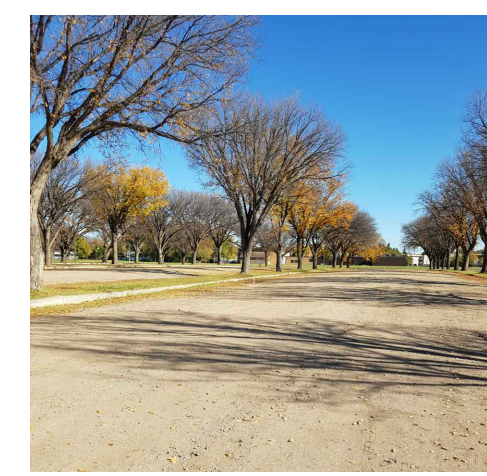
Notes

FRIENDS OF THE BOWL FOUNDATION ™









CROSBY HANNA & ASSOCIATES
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Saskatoon, SK S7K 1X5
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LANDSCAPE ARCHITECTURE
COMMUNITY PLANNING
T (306) 665-3441
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GORDIE HOWE SPORTS COMPLEX - PHASE 5

Project Title

SECTION AT BOWL PARKING MEDIAN

Drawing Title

Drawn	KS	Checked	MT
Scale	1:100	Date	2017/12/21
Project No.	17094	Drawing	PL-2

- SECTION BASED ON INFORMATION PROVIDED BY CATTERALL & WRIGHT 2017-12-19.

Notes

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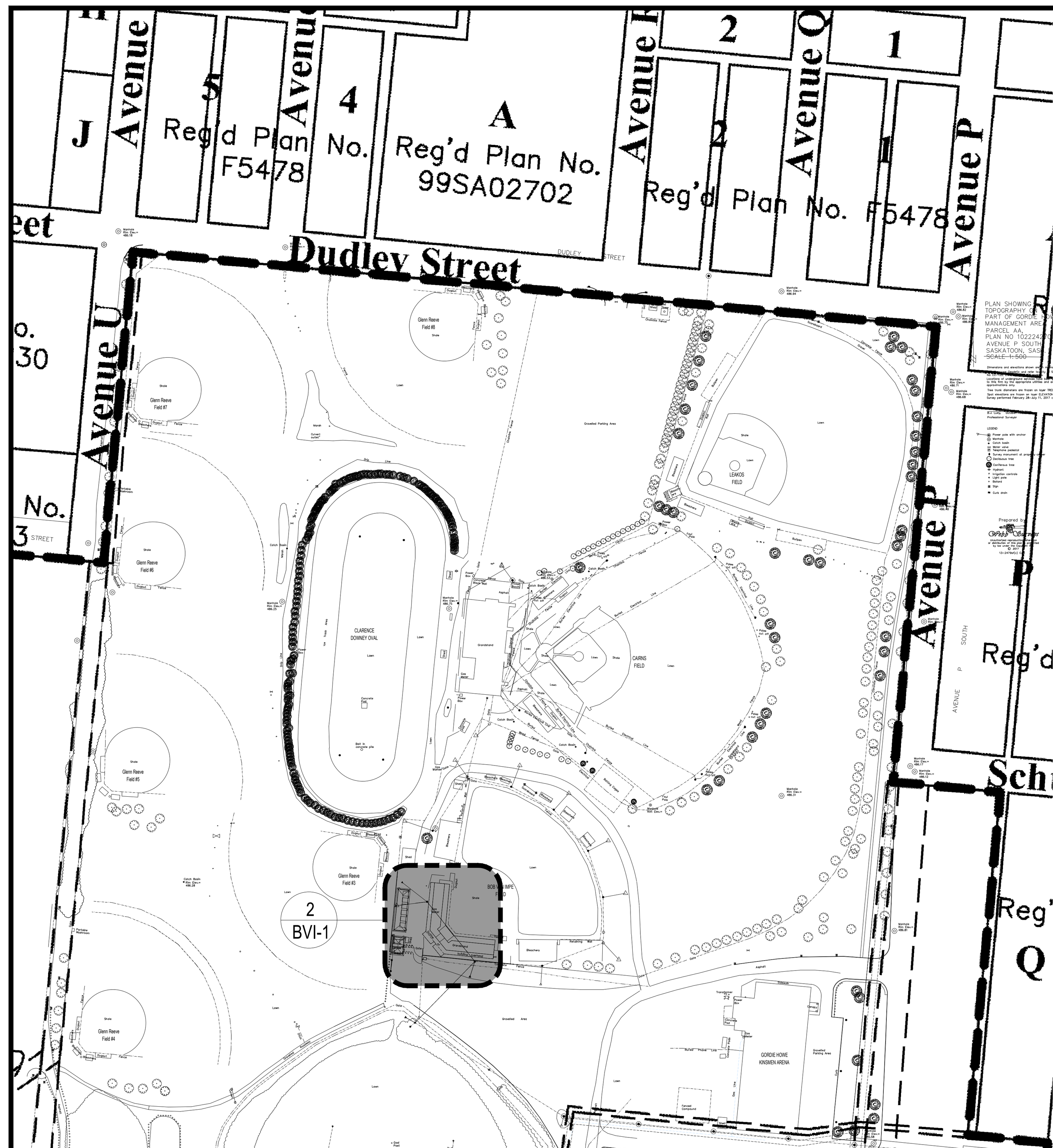
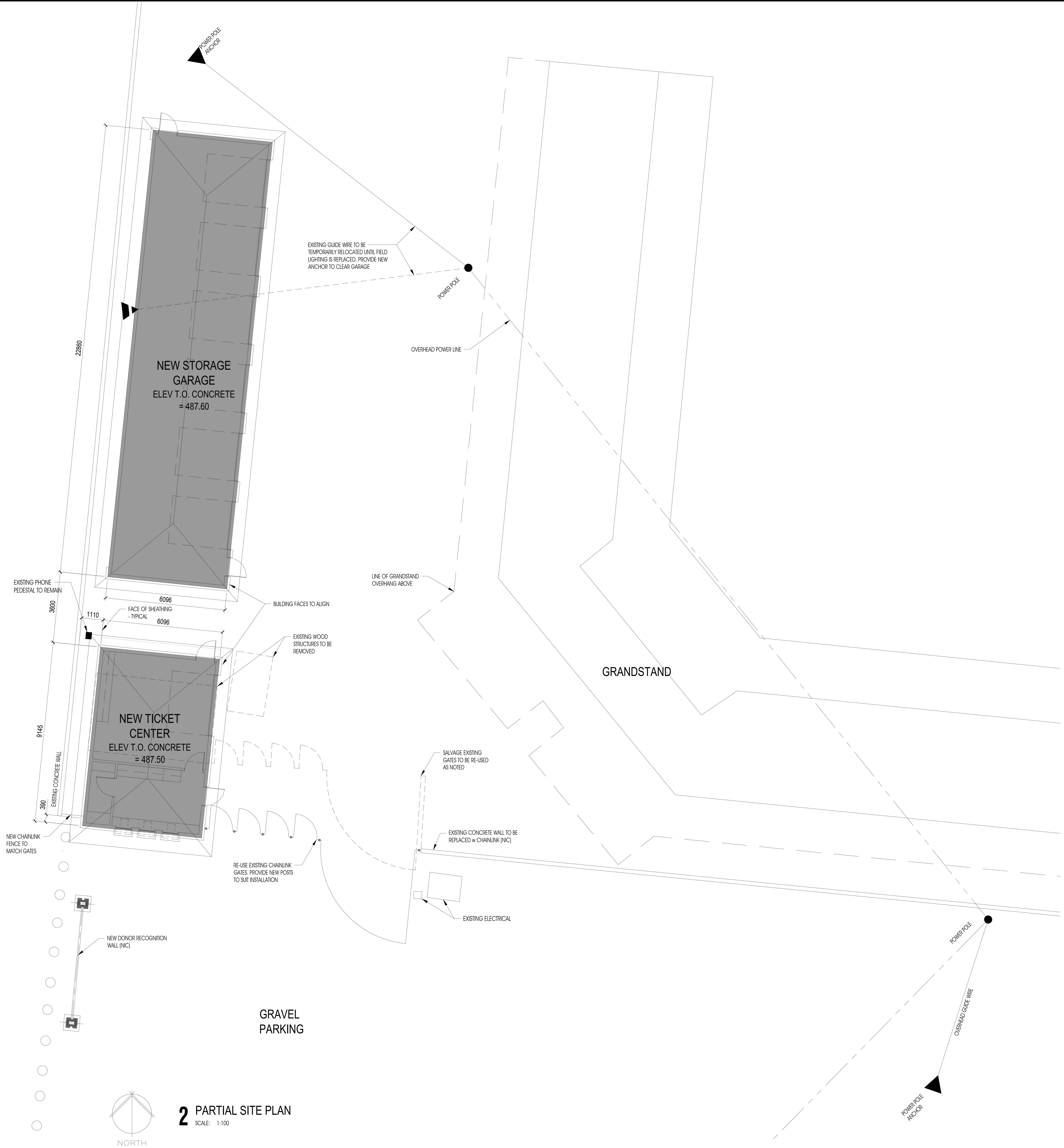


1 AREA PLAN / KEY PLAN
SCALE: N.T.S.

NORTH



NORTH

2 PARTIAL SITE PLAN
SCALE: 1:100

NOTES:

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No.	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	DEC 22, 2017

REVIEW SET NOT FOR CONSTRUCTION
DATE: DEC 22, 2017

FRIENDS OF THE BOWL FOUNDATION ™

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NUMBER **C1422**
PERMISSION TO CONSULT HELD BY:

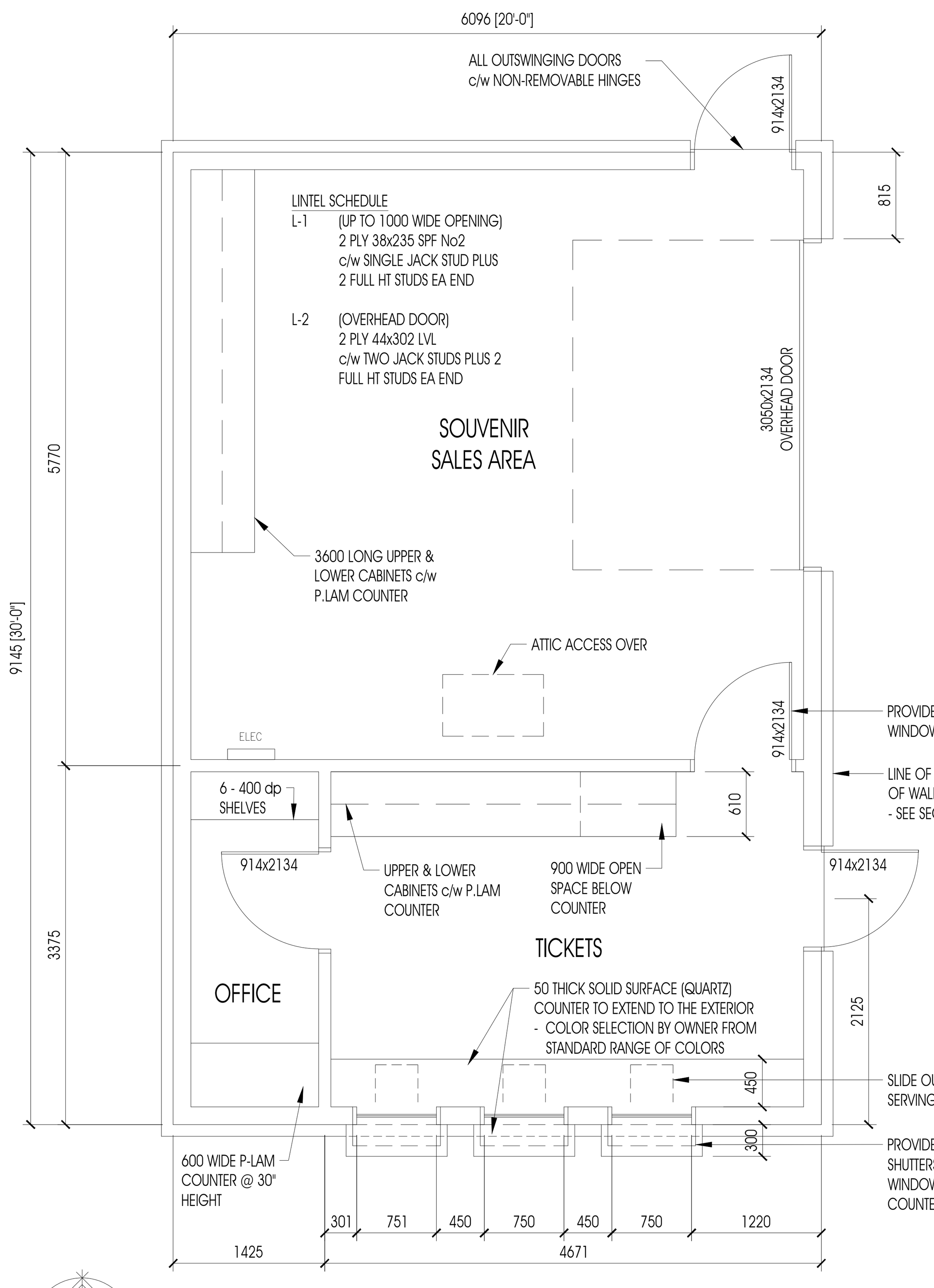
DISCIPLINE	SASK. REG. No.	SIGNATURE
STRUCTURAL	4384	

PROJECT
GORDIE HOWE SPORTS COMPLEX - PHASE 5
BVI TICKET CENTER
BOB VAN IMPE STADIUM
1301 AVE P South, SASKATOON, SK

DRAWING NAME
PARTIAL SITE PLAN

DRAWN : : B.BESSEL
DATE : : MAY 2017
FILE : : 17-938
CHECKED :
DRAWING
BVI-1

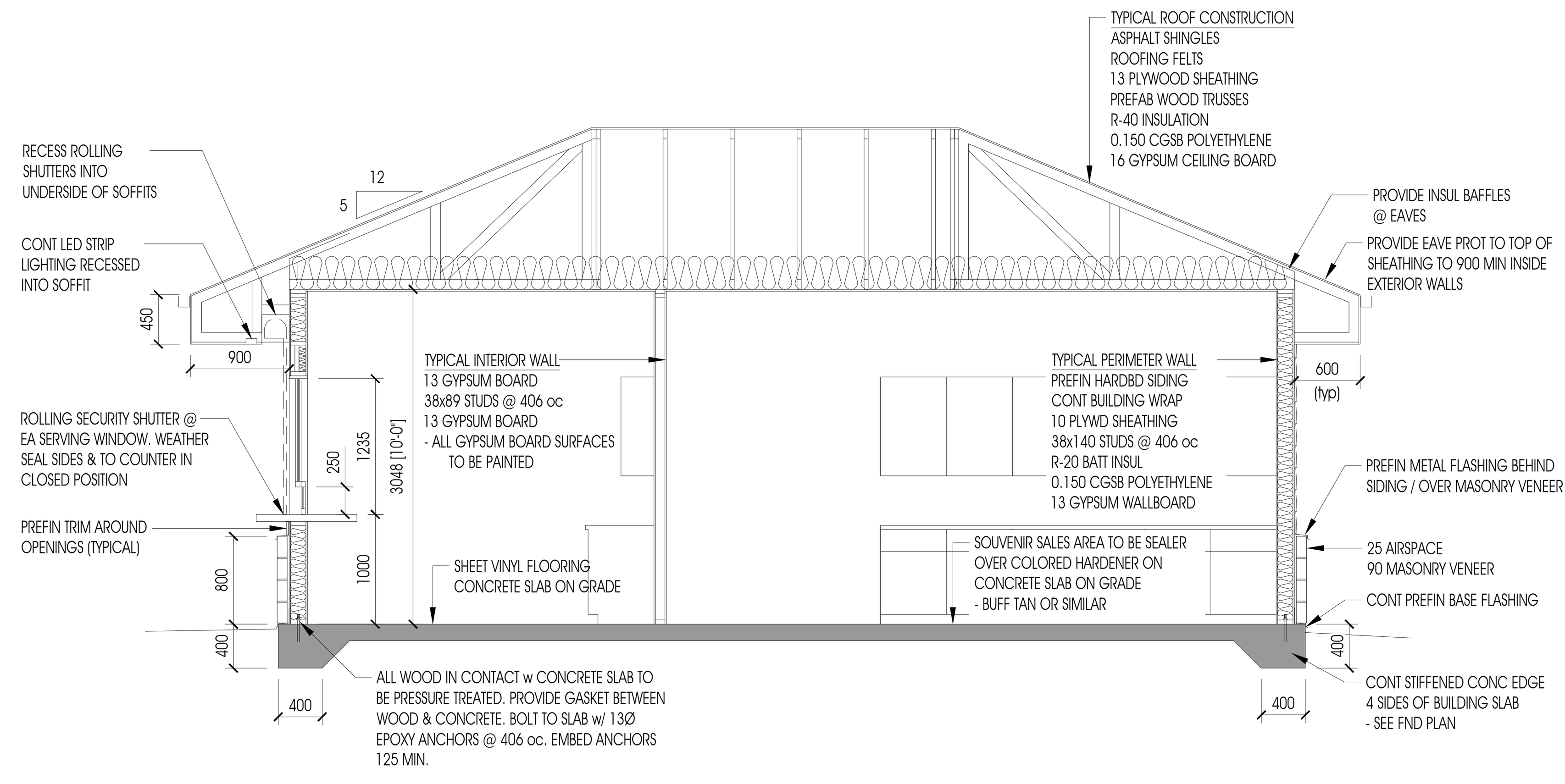
Z:\2017\17-938 Gordie Howe Sports Complex - Phase 5\Drawings\BVI Ticket Center\17-938 BVI Ticket Center Site Plan.dwg (December 18, 2017 - 4:41pm)



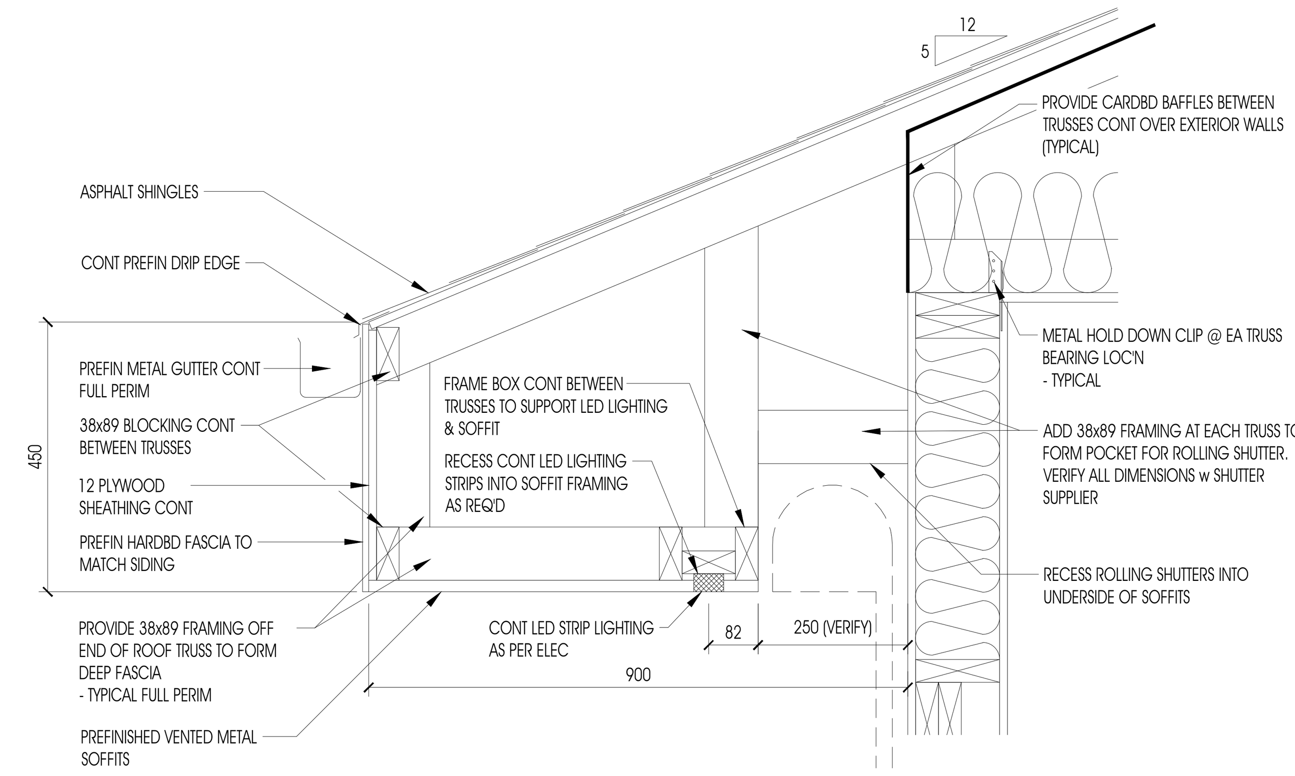
1 FLOOR PLAN
SCALE: 1:50

NOTE:
1. ALL EXTERIOR DOORS TO BE METAL INSULATED DOORS IN PRESSED STEEL FRAMES c/w WEATHERSTRIPPING, THRESHOLD, SWEEPS & CLOSERS.
2. ALL INTERIOR DOORS TO BE HOLLOW METAL DOORS IN PRESSED STEEL FRAMES. PROVIDE DOOR STOPS.
3. ALL DOORS TO BE FITTED WITH COMMERCIAL GRADE LEVER STYLE LOCKSETS BY SCHLAGE. eXTERIOR DOORS COMPLETE WITH DEADBOLTS IN ADDITION TO LOCKSET. HARDWARE KEYED TO OWNER REQUIREMENTS. PROVIDE ELECTRIC DOOR STRIKES AT DOORS FITTED WITH CARD ACCESS CONTROLS.
4. PROVIDE PEEPHOLES IN DOORS FROM TICKET AND MERCHANDISE SALES AREAS.

EXTERIOR FINISH SCHEDULE
- MASONRY VENEER - 190x390x90 SPLIT FACE, HAZELNUT TAN BY EXPOCRETE
- HARDIE BOARD SIDING - SELECT CEDARMILL, NAVAJO BEIGE, 152 EXPOSURE. TRIM BOARDS SMOOTH, ANTIQUE WHITE
- PREFINISHED METAL FASCIA, TRIM, GUTTERS, DOWNSPOUTS AND FLASHINGS - ANTIQUE IVORY
- SHINGLES - 25 YEAR ASPHALT, VINTAGE GREEN (IKO) OR SIMILAR
- DOORS & FRAMES PAINTED TO MATCH PREFINISHED METAL

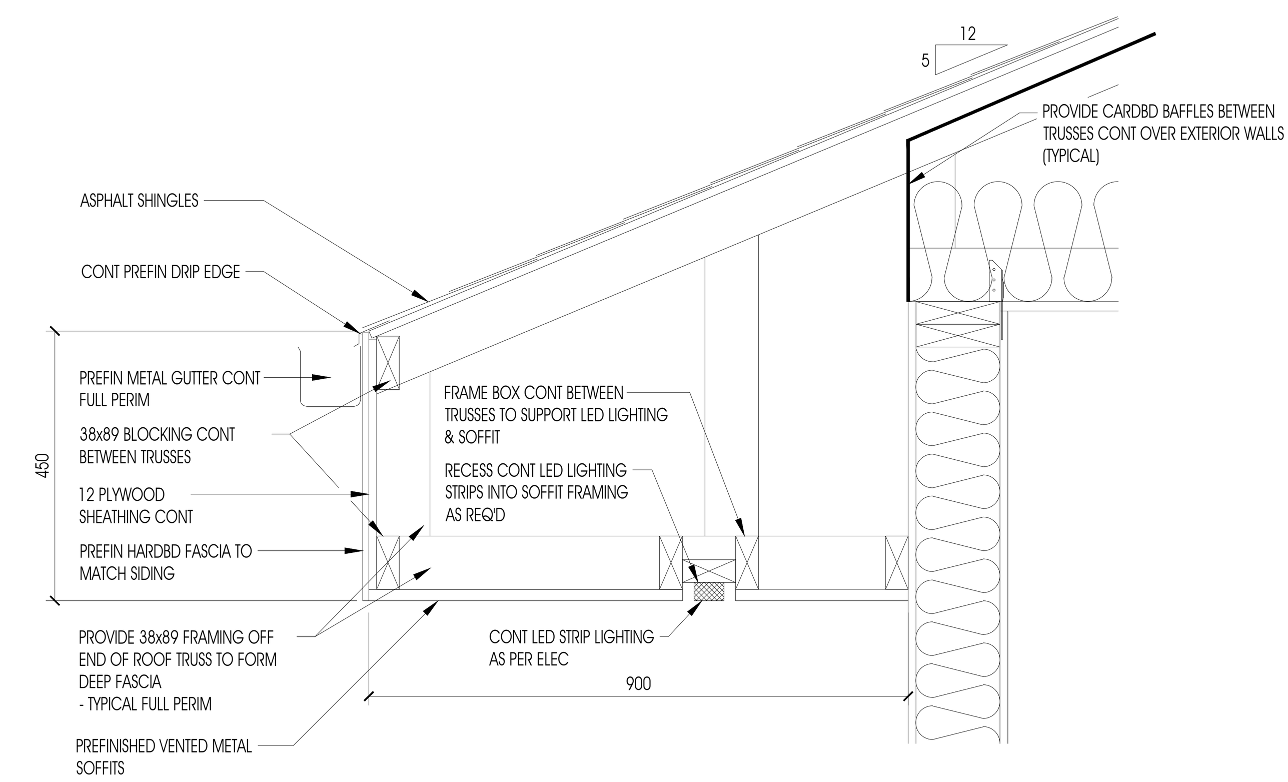


2 BUILDING SECTION
SCALE: 1:50



A SOFFIT DETAIL
SCALE: 1:10

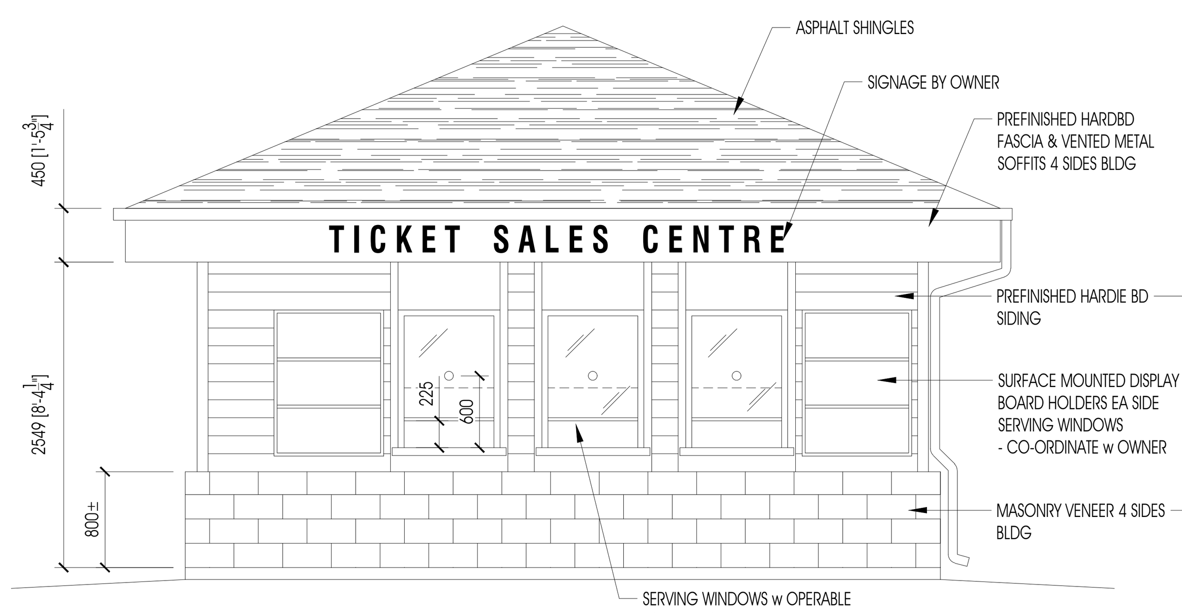
TYPICAL CONTINUOUS OVER SERVING WINDOWS ONLY. REFER TO DETAIL 'B' BELOW FOR LIGHTING INSTALLATION EACH SIDE OF SERVING WINDOWS



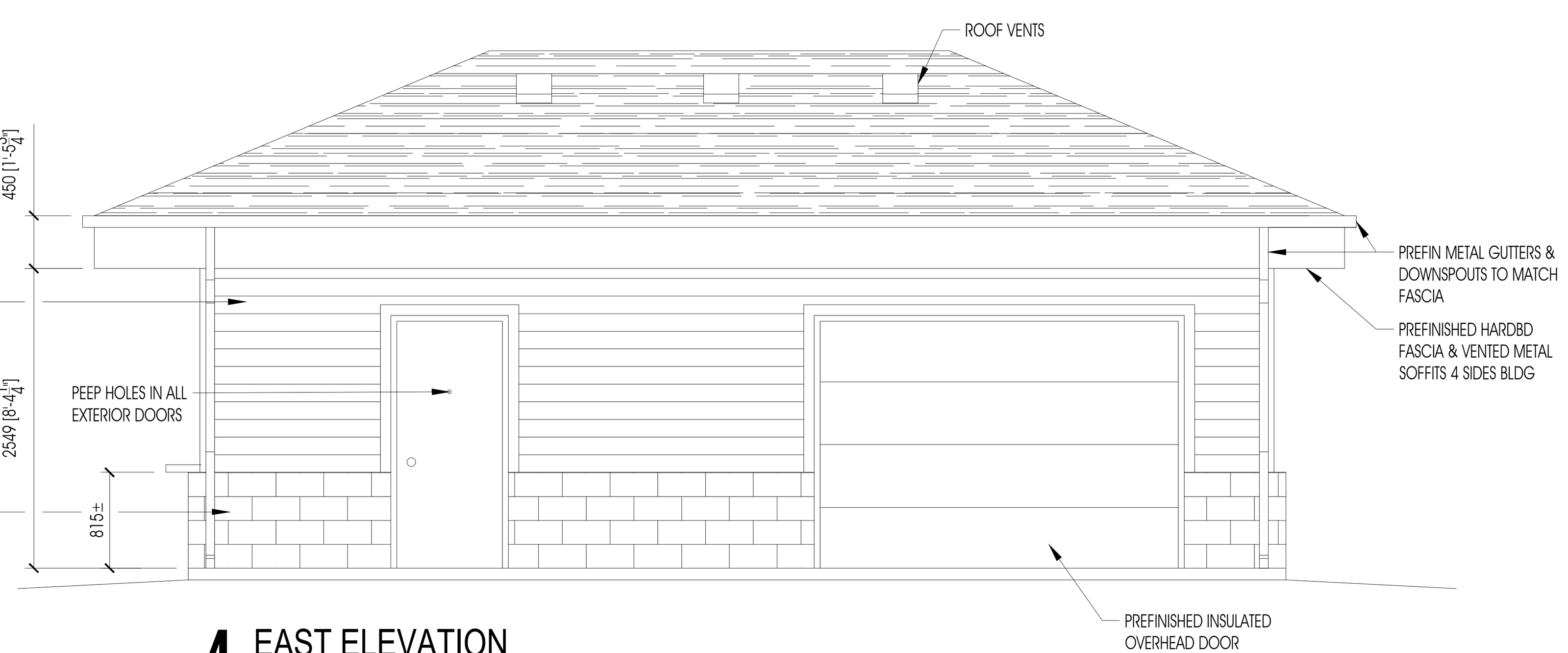
B SOFFIT DETAIL
SCALE: 1:10

TYPICAL CONTINUOUS EACH SIDE OF SERVING WINDOWS ONLY. REFER TO DETAIL 'A' ABOVE FOR LIGHTING INSTALLATION OVER SERVING WINDOWS

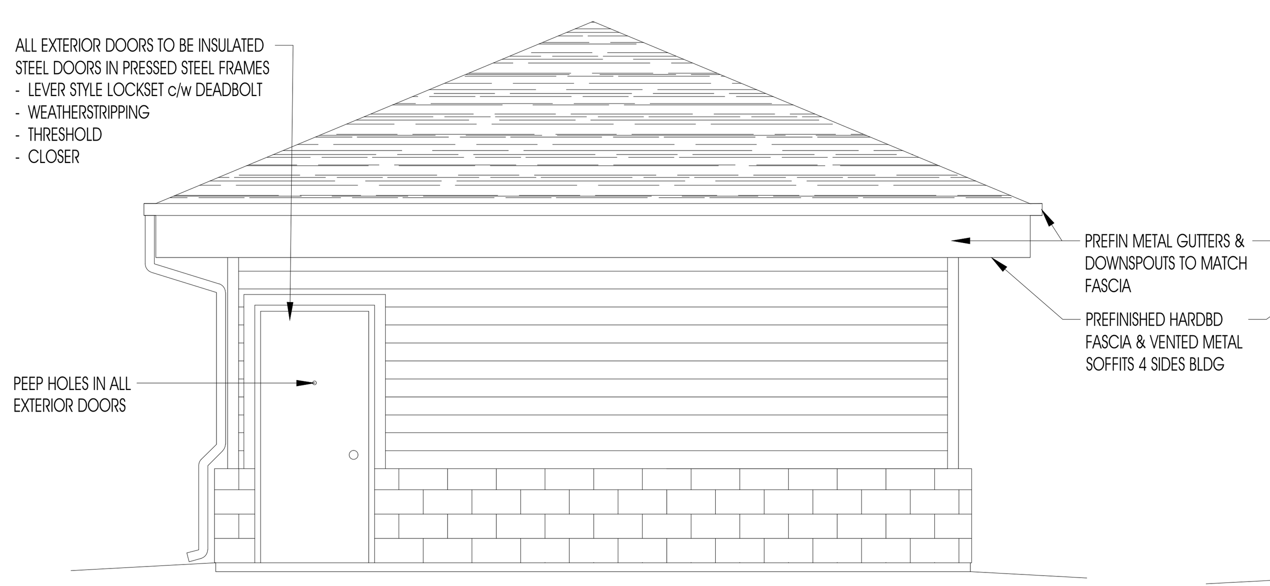
REVIEW SET NOT FOR CONSTRUCTION
DATE: DEC 22, 2017



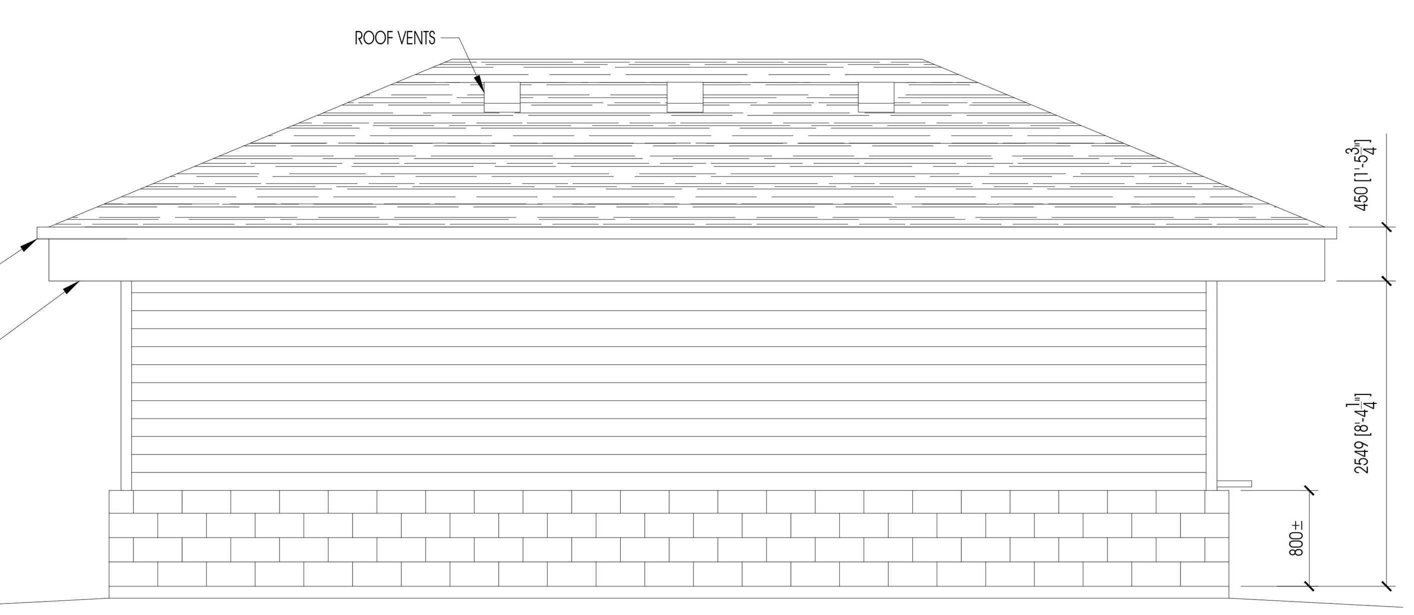
3 SOUTH ELEVATION
SCALE: 1:50



4 EAST ELEVATION
SCALE: 1:50



5 NORTH ELEVATION
SCALE: 1:50



6 WEST ELEVATION
SCALE: 1:50

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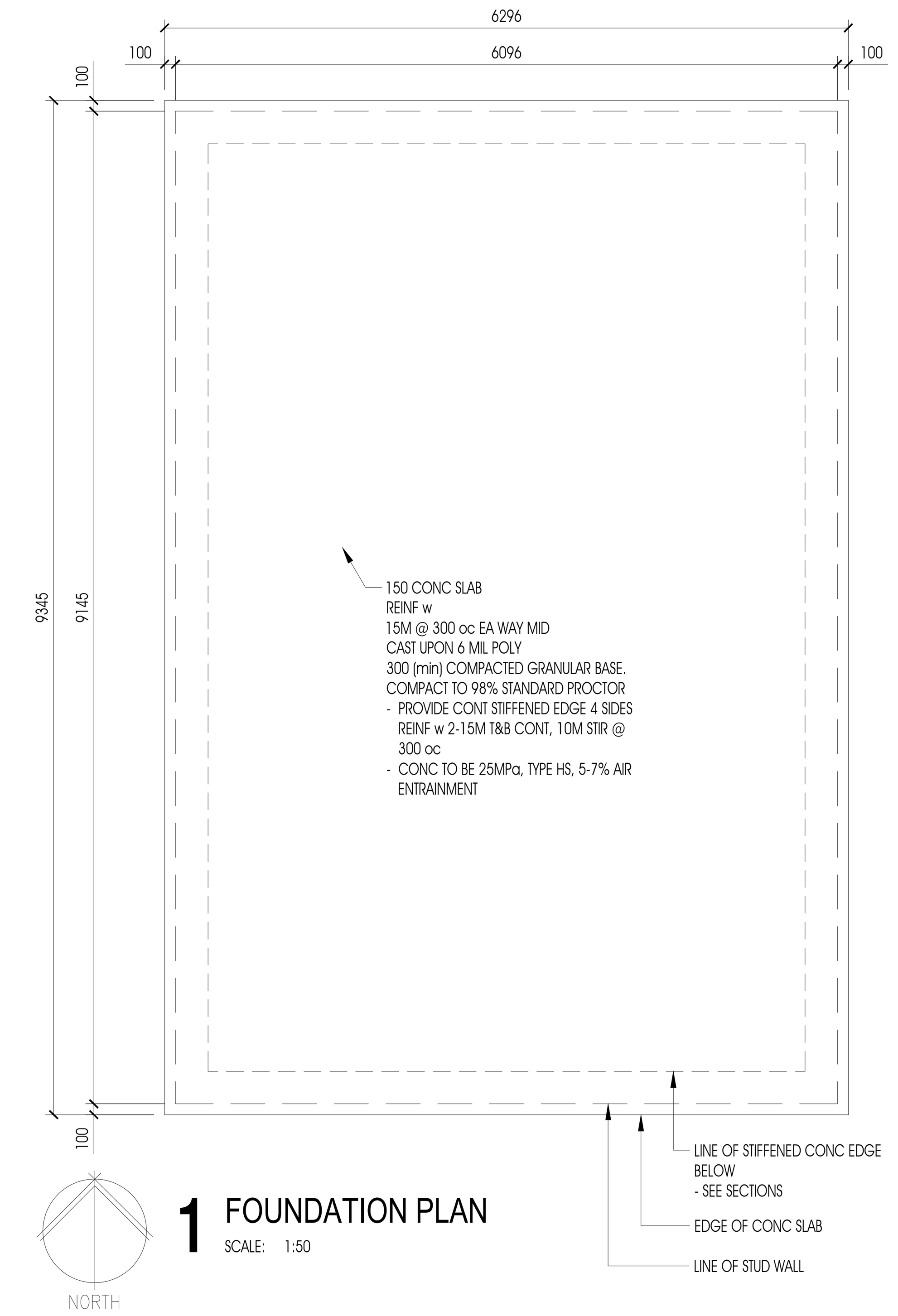
STRUCTURAL 4384

PROJECT
GORDIE HOWE SPORTS COMPLEX - PHASE 5
BVI TICKET CENTER
BOB VAN IMPE STADIUM
1301 AVE P South, SASKATOON, SK

DRAWING NAME
FLOOR PLAN
BUILDING SECTION
ELEVATIONS

DRAWN: B.BESSEL
DATE: MAY 2017
FILE: 17-938
CHECKED
DRAWING: BVI-2



1 FOUNDATION PLAN
SCALE: 1:50

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STRUCTURAL	4364	

PROJECT

GORDIE HOWE SPORTS
COMPLEX - PHASE 5
BVI TICKET CENTER

BOB VAN IMPE STADIUM
1301 AVE P South, SASKATOON, SK

DRAWING NAME

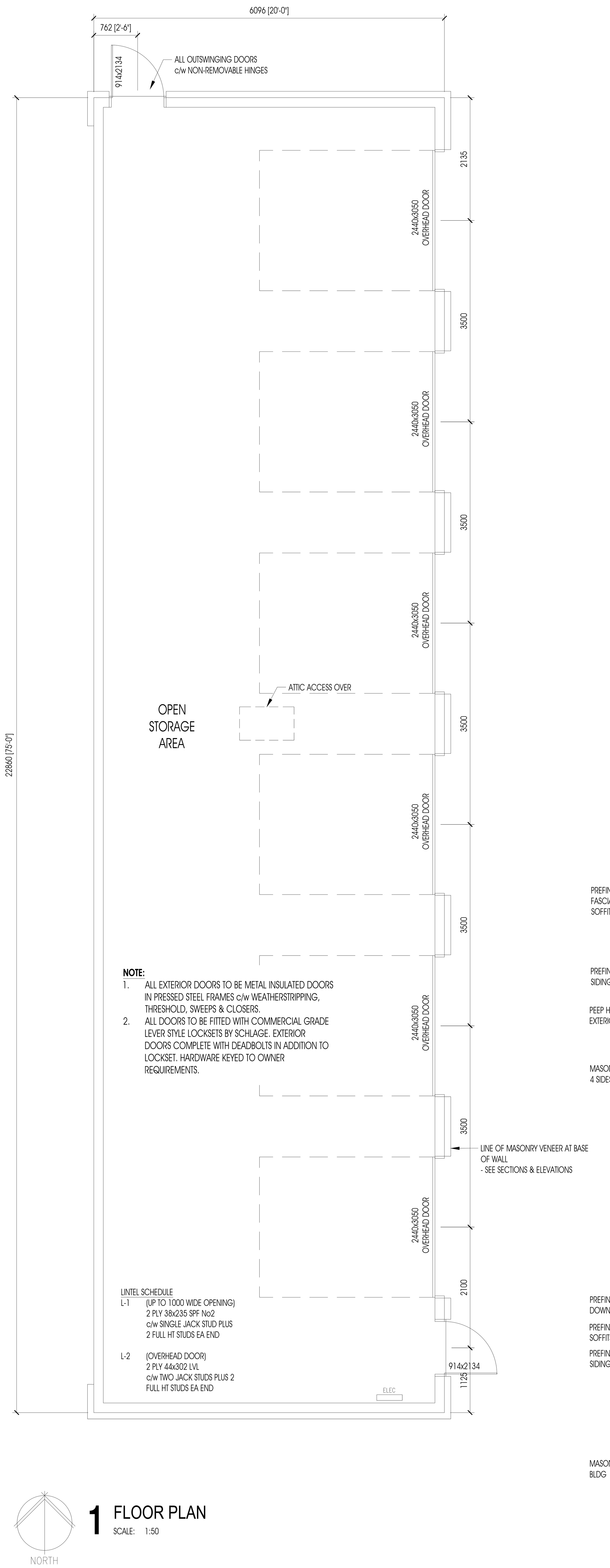
FOUNDATION PLAN
SPECIFICATION

DRAWN : B.BESSEL
DATE : MAY 2017
FILE : 17-938
CHECKED
DRAWING
BVI-3

Z:\2017\17-938 Gordie Howe Sports Complex - Phase 5\Drawings\BVI Ticket Center\17-938 BVI Ticket Center Plan.dwg (December 18, 2017 - 4:42pm)

EXTERIOR FINISH SCHEDULE

- MASONRY VENEER - 190x390x90 SPLIT FACE, HAZELNUT TAN BY EXPOCRETE
- HARDIE BOARD SIDING - SELECT CEDARMILL, NAVAJO BEIGE, 152 EXPOSURE. TRIM BOARDS SMOOTH, ANTIQUE WHITE
- PREFINISHED METAL FASCIA, TRIM, GUTTERS, DOWNSPOUTS AND FLASHINGS - ANTIQUE IVORY
- SHINGLES - 25 YEAR ASPHALT, VINTAGE GREEN (IKO) OR SIMILAR
- DOORS & FRAMES PAINTED TO MATCH PREFINISHED METAL



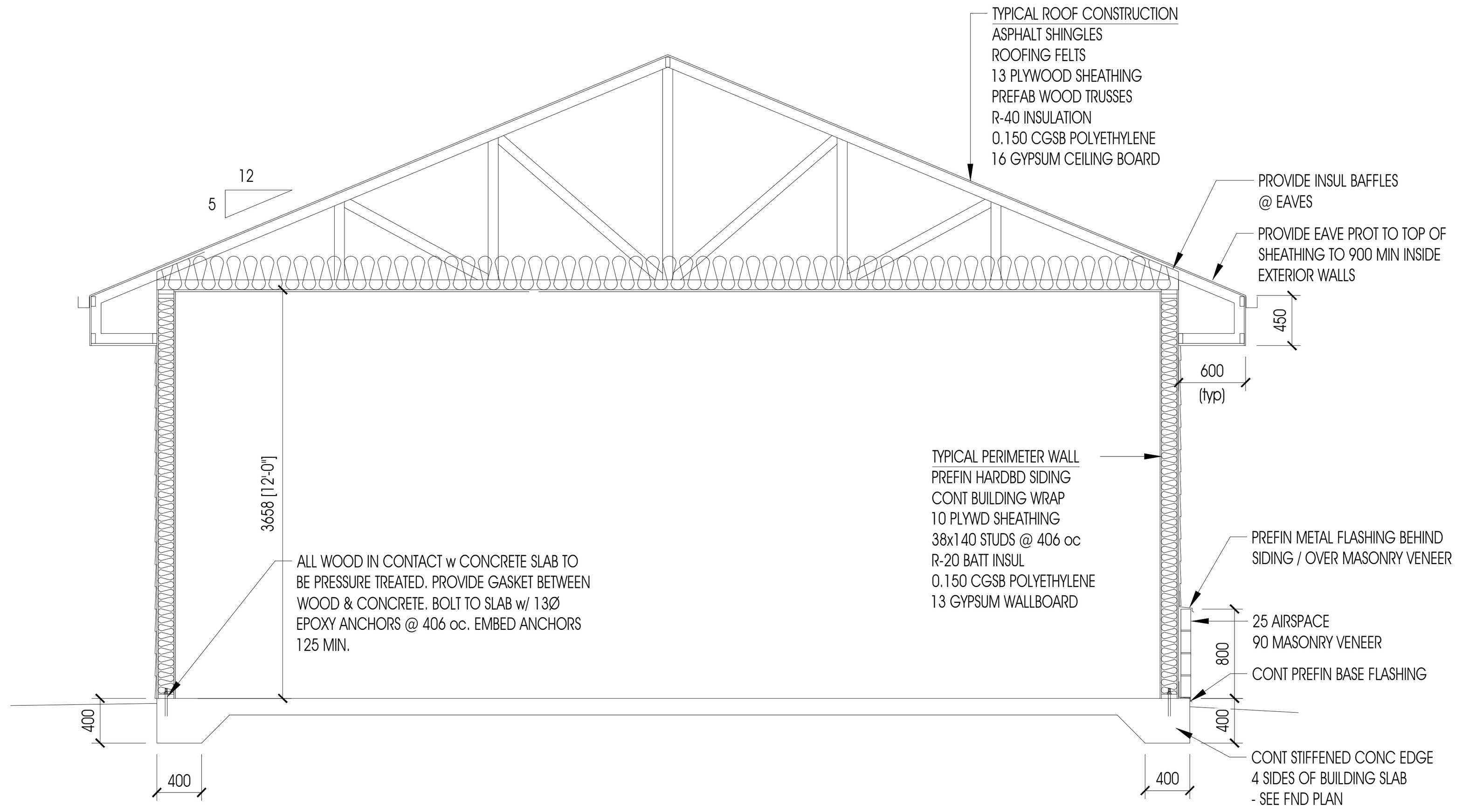
NOTE:
1. ALL EXTERIOR DOORS TO BE METAL INSULATED DOORS IN PRESSED STEEL FRAMES c/w WEATHERSTRIPPING, THRESHOLD, SWEEPS & CLOSERS.
2. ALL DOORS TO BE FITTED WITH COMMERCIAL GRADE LEVER STYLE LOCKSETS BY SCHLAGE. EXTERIOR DOORS COMPLETE WITH DEADBOLTS IN ADDITION TO LOCKSET. HARDWARE KEYED TO OWNER REQUIREMENTS.

LINTEL SCHEDULE

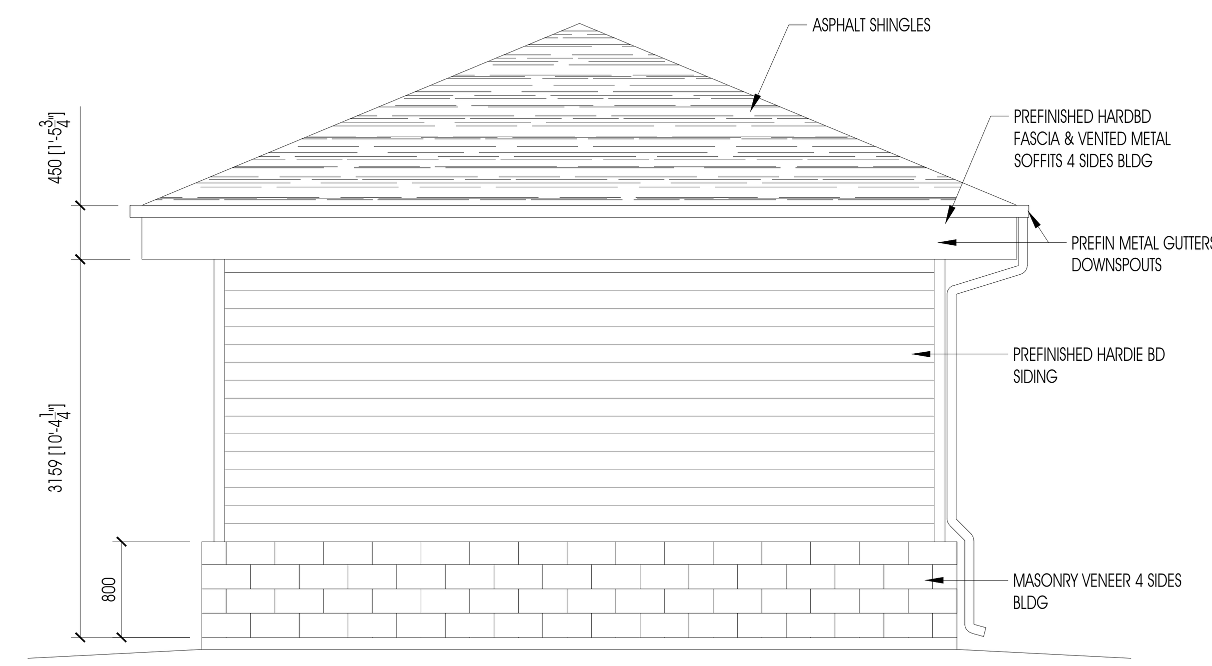
L-1 (UP TO 1000 WIDE OPENING)
2 PLY 38x235 SPF No2
c/w SINGLE JACK STUD PLUS
2 FULL HT STUDS EA END

L-2 (OVERHEAD DOOR)
2 PLY 44x302 LVL
c/w TWO JACK STUDS PLUS 2
FULL HT STUDS EA END

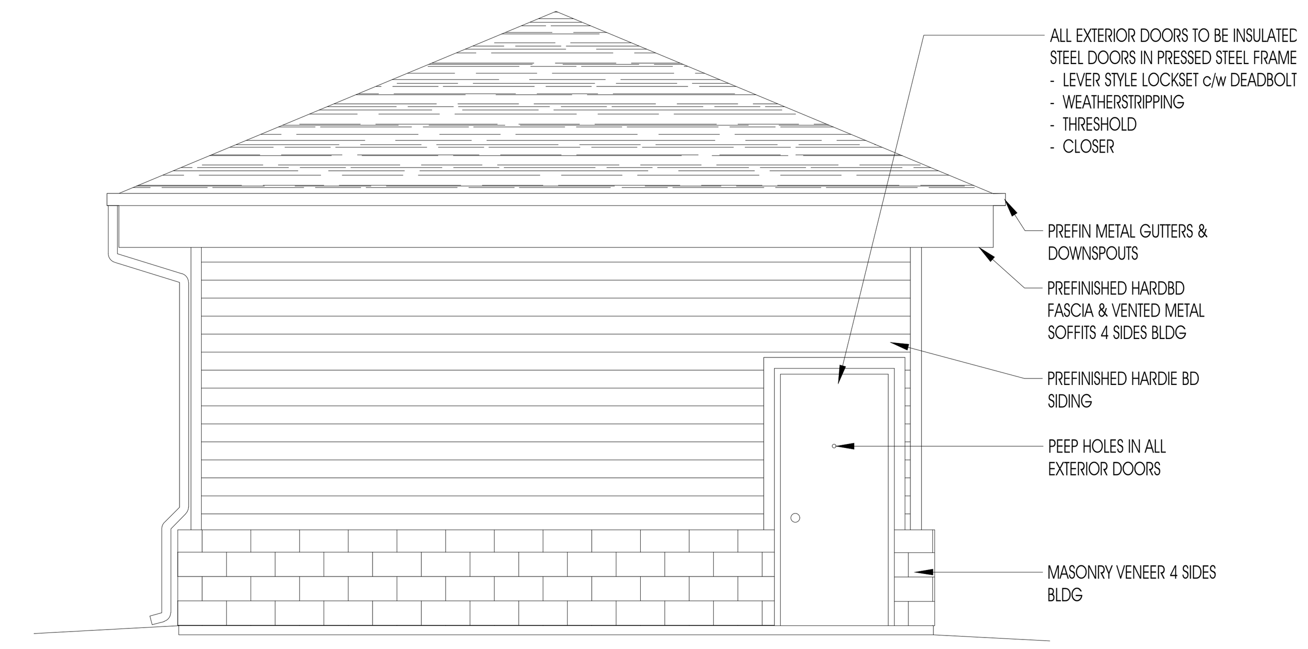
1 FLOOR PLAN
SCALE: 1:50



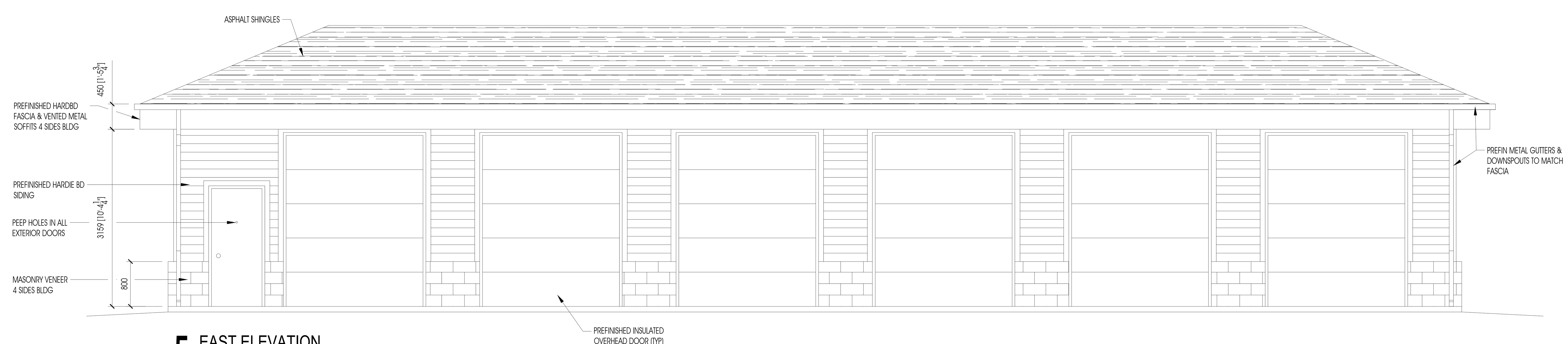
2 BUILDING SECTION
SCALE: 1:50



3 SOUTH ELEVATION
SCALE: 1:50



4 NORTH ELEVATION
SCALE: 1:50



5 EAST ELEVATION
SCALE: 1:50

6 WEST ELEVATION
SCALE: 1:50

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REVISIONS

No.	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	DEC 22, 2017

REVIEW SET NOT FOR CONSTRUCTION
DATE: DEC 22, 2017

FRIENDS OF THE BOWL FOUNDATION ™

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STRUCTURAL	4364	

PROJECT

GORDIE HOWE SPORTS COMPLEX - PHASE 5
BVI STORAGE BUILDING

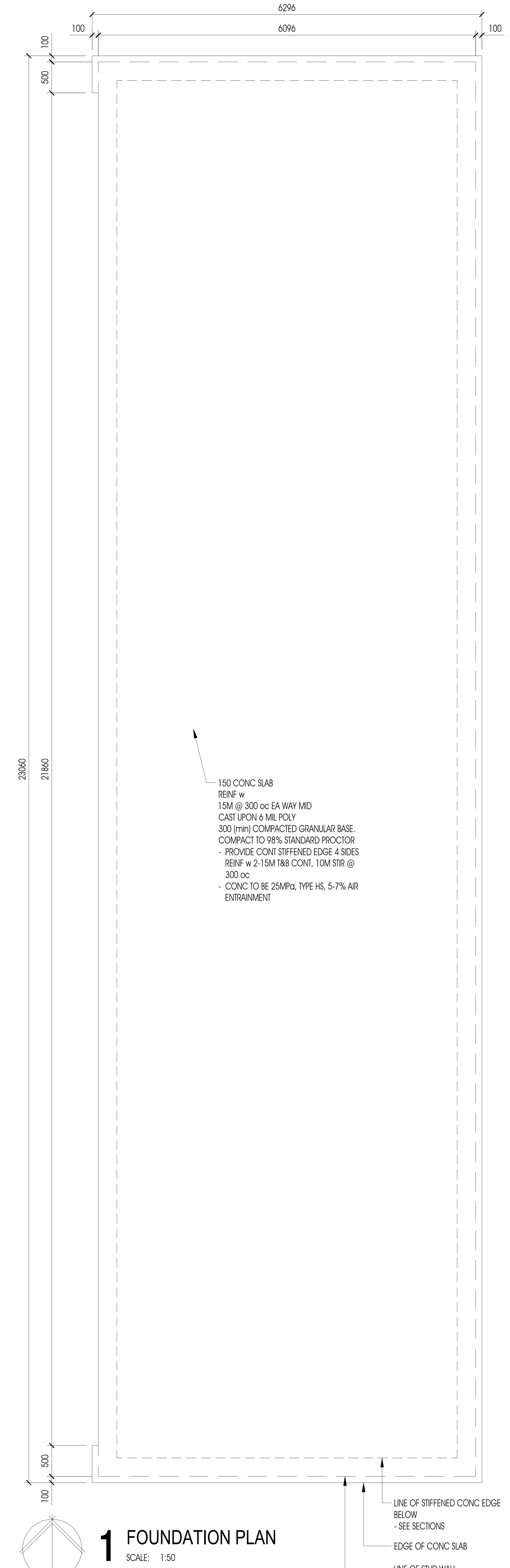
BOB VAN IMPE STADIUM
1301 AVE P South, SASKATOON, SK

DRAWING NAME

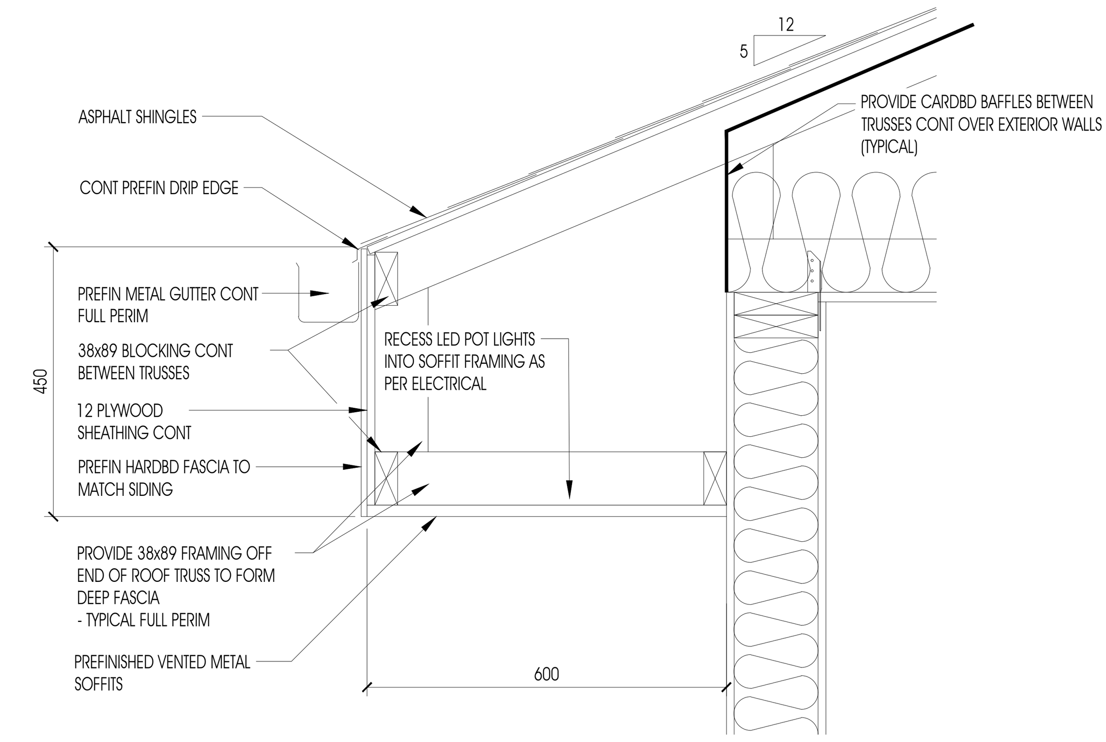
FLOOR PLAN
BUILDING SECTION
ELEVATIONS

DRAWN : B.BESSEL
DATE : OCT 2017
FILE : 17-938
CHECKED

DRAWING
BVI-4



1 FOUNDATION PLAN
SCALE: 1:50



A TYPICAL SOFFIT DETAIL
SCALE: 1:10

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STRUCTURAL	4364	

PROJECT

GORDIE HOWE SPORTS COMPLEX - PHASE 5
BVI STORAGE BUILDING

BOB VAN IMPE STADIUM
1301 AVE P South, SASKATOON, SK

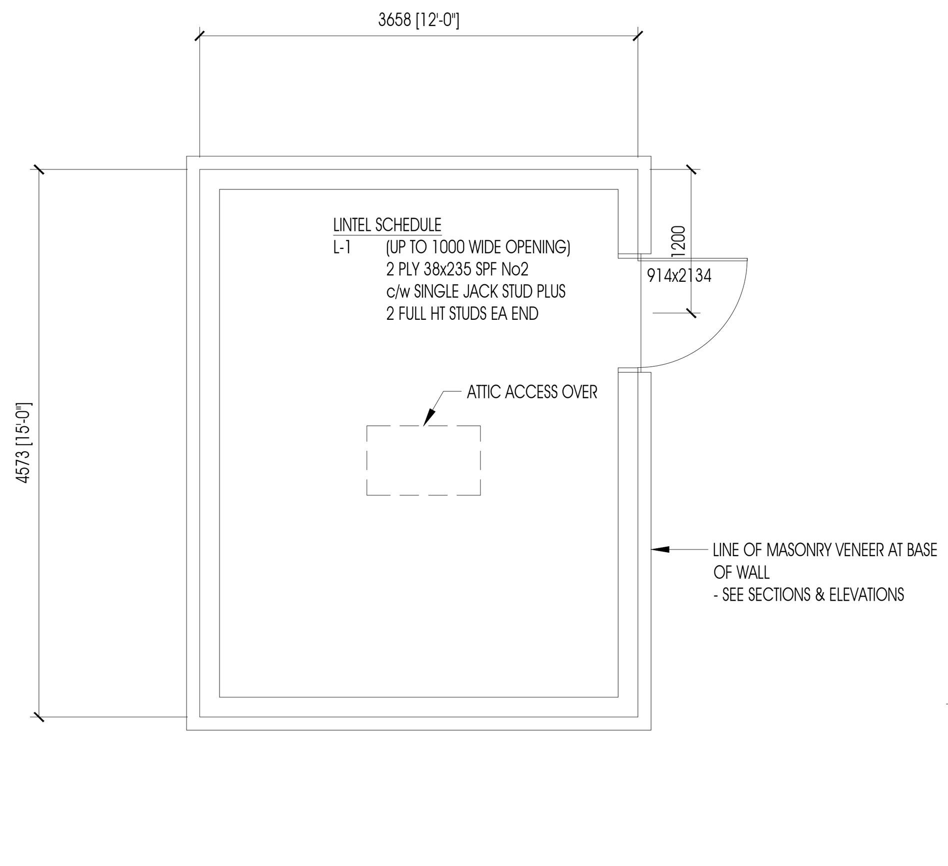
DRAWING NAME

FOUNDATION PLAN
SOFFIT DETAIL

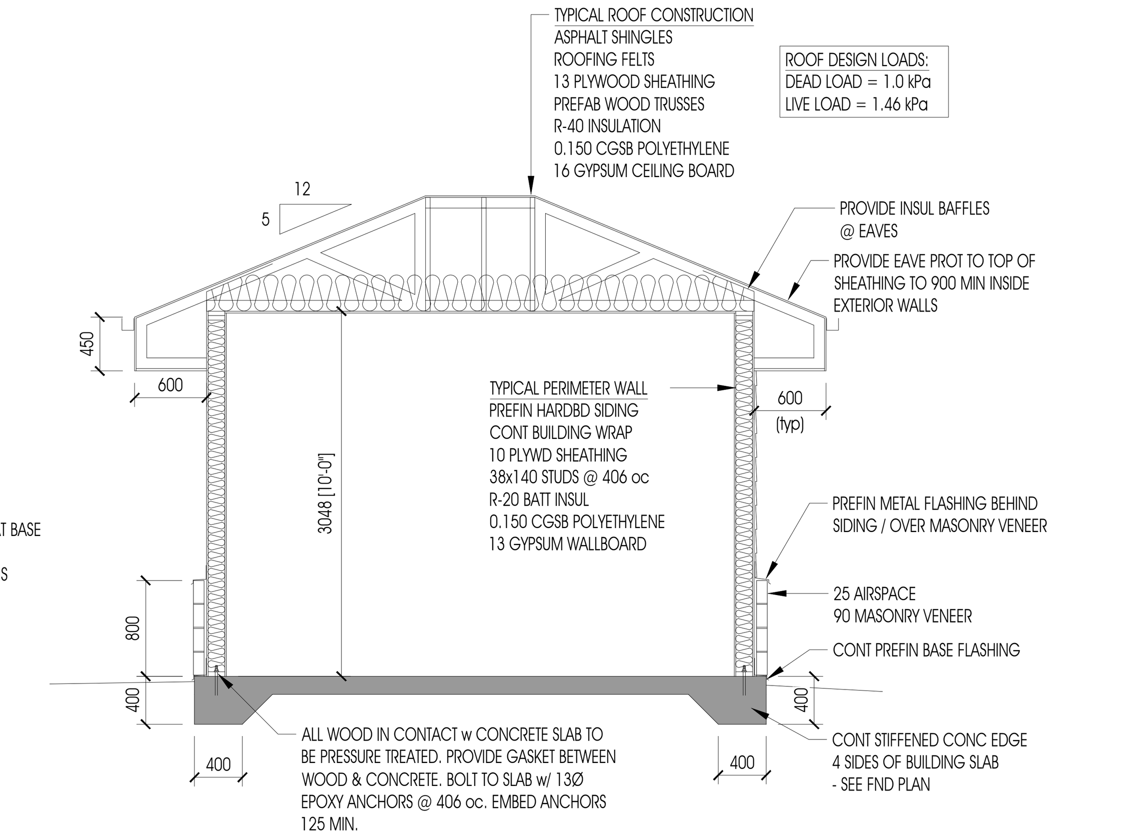
DRAWN : B.BESSEL
DATE : OCT 2017
FILE : 17-938
CHECKED

DRAWING
BVI-5

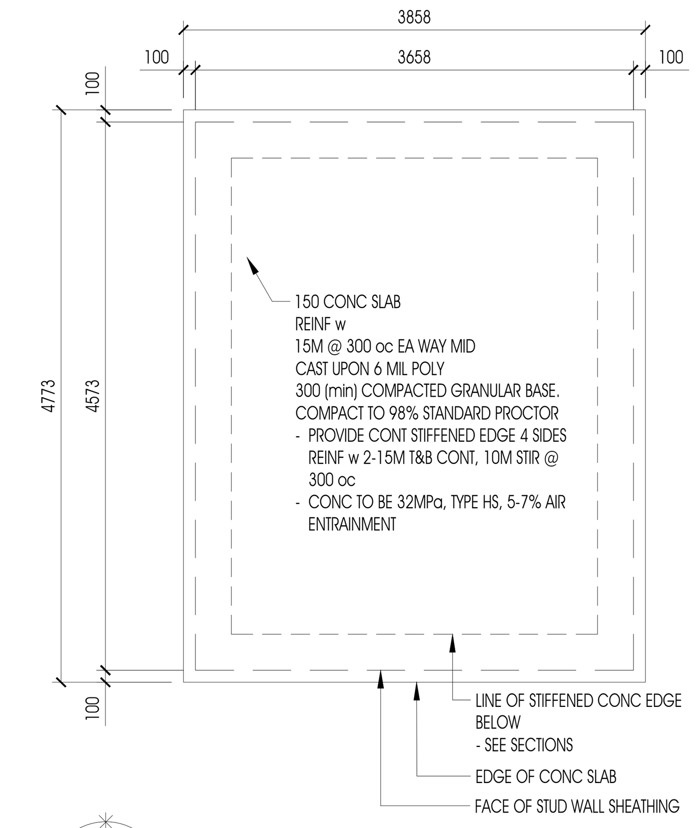
Z:\2017\17-938 Gordie Howe Sports Complex - Phase 5\Drawings\BVI Storage Garage\17-938 BVI Storage Garage Plan.dwg (December 18, 2017 - 3:02pm)



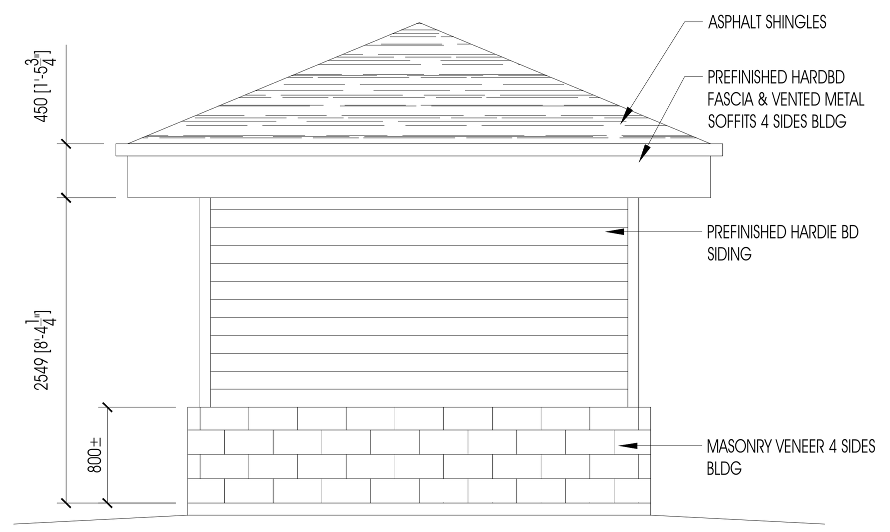
1 FLOOR PLAN
SCALE: 1:50



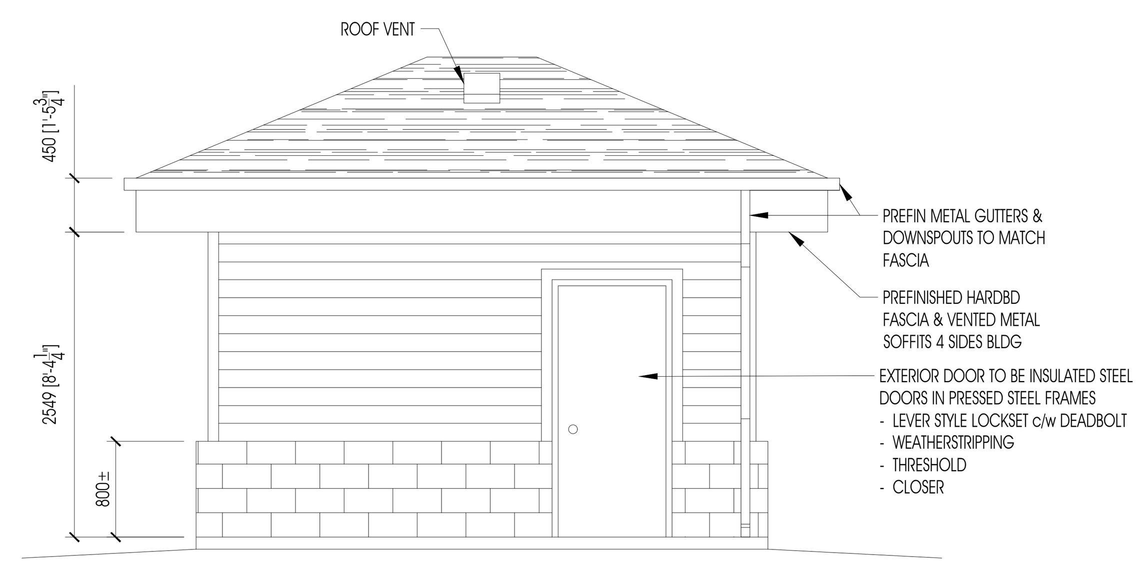
2 BUILDING SECTION
SCALE: 1:50



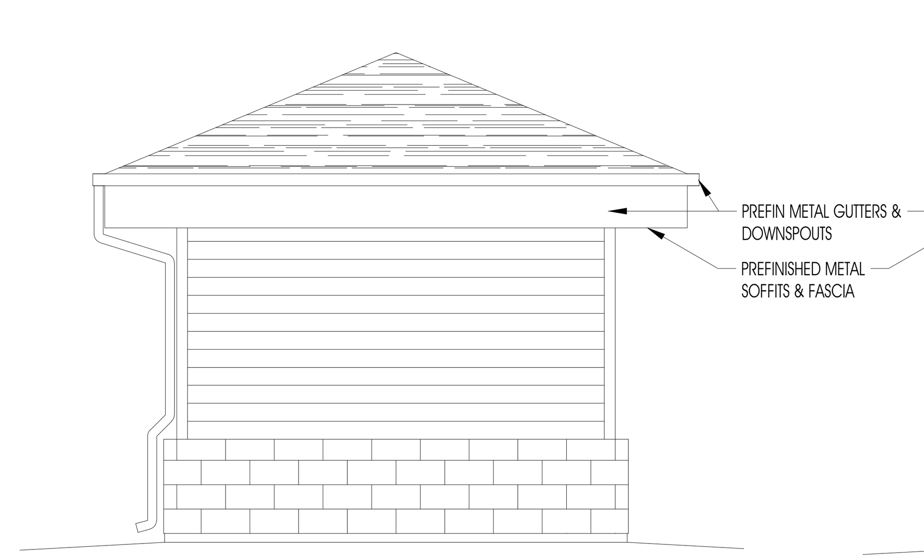
7 FOUNDATION PLAN
SCALE: 1:50



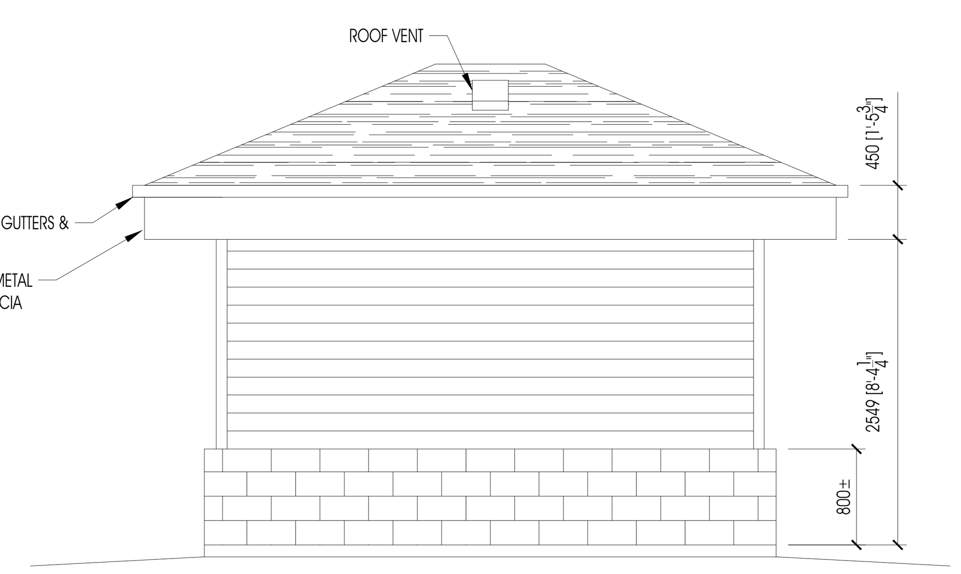
3 SOUTH ELEVATION
SCALE: 1:50



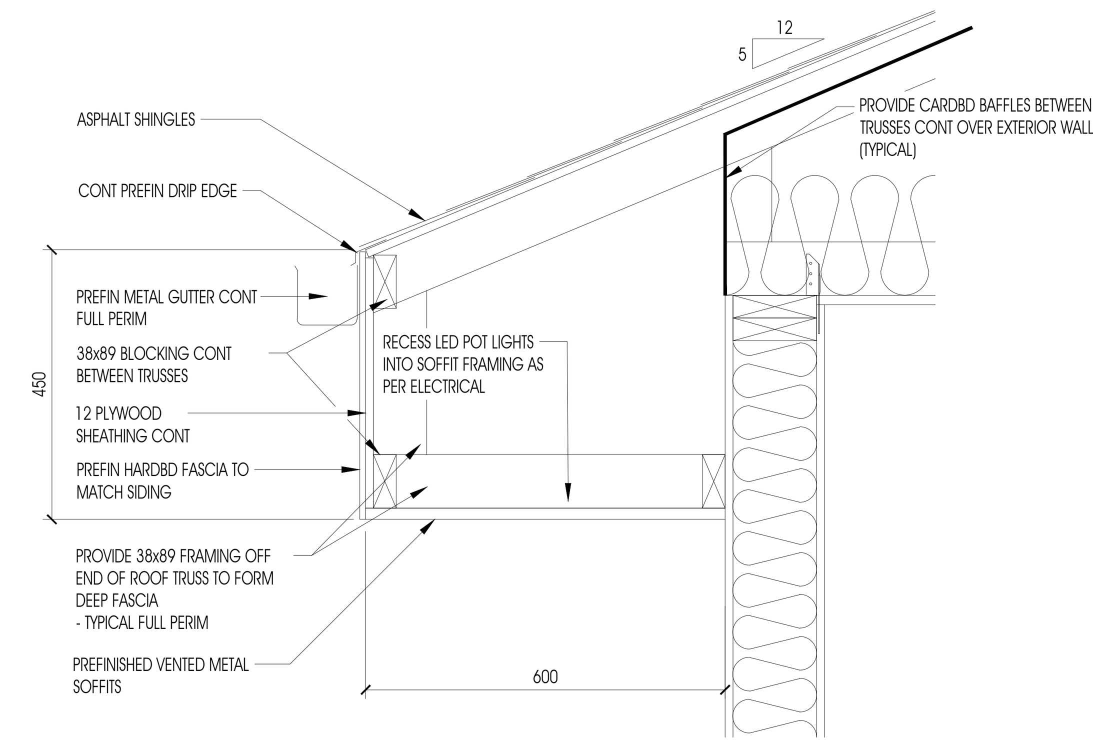
4 EAST ELEVATION
SCALE: 1:50



5 NORTH ELEVATION
SCALE: 1:50



6 WEST ELEVATION
SCALE: 1:50



A TYPICAL SOFFIT DETAIL
SCALE: 1:10

NOTE:

1. ALL EXTERIOR DOORS TO BE METAL INSULATED DOORS IN PRESSED STEEL FRAMES c/w WEATHERSTRIPPING, THRESHOLD, SWEEPS & CLOSERS.
2. ALL DOORS TO BE FITTED WITH COMMERCIAL GRADE LEVER STYLE LOCKSETS BY SCHLAGE. EXTERIOR DOORS COMPLETE WITH DEADBOLTS IN ADDITION TO LOCKSET. HARDWARE KEYED TO OWNER REQUIREMENTS.

EXTERIOR FINISH SCHEDULE

- MASONRY VENEER - 190x390x90 SPLIT FACE, HAZELNUT TAN BY EXPOCRETE
- HARDIE BOARD SIDING - SELECT CEDARMILL, NAVAJO BEIGE, 152 EXPOSURE. TRIM BOARDS SMOOTH, ANTIQUE WHITE
- PREFINISHED METAL FASCIA, TRIM, GUTTERS, DOWNSPOUTS AND FLASHINGS - ANTIQUE IVORY
- SHINGLES - 25 YEAR ASPHALT, VINTAGE GREEN (IKO) OR SIMILAR
- DOORS & FRAMES PAINTED TO MATCH PREFINISHED METAL

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REVIEW SET NOT FOR CONSTRUCTION
DATE: DEC 22, 2017

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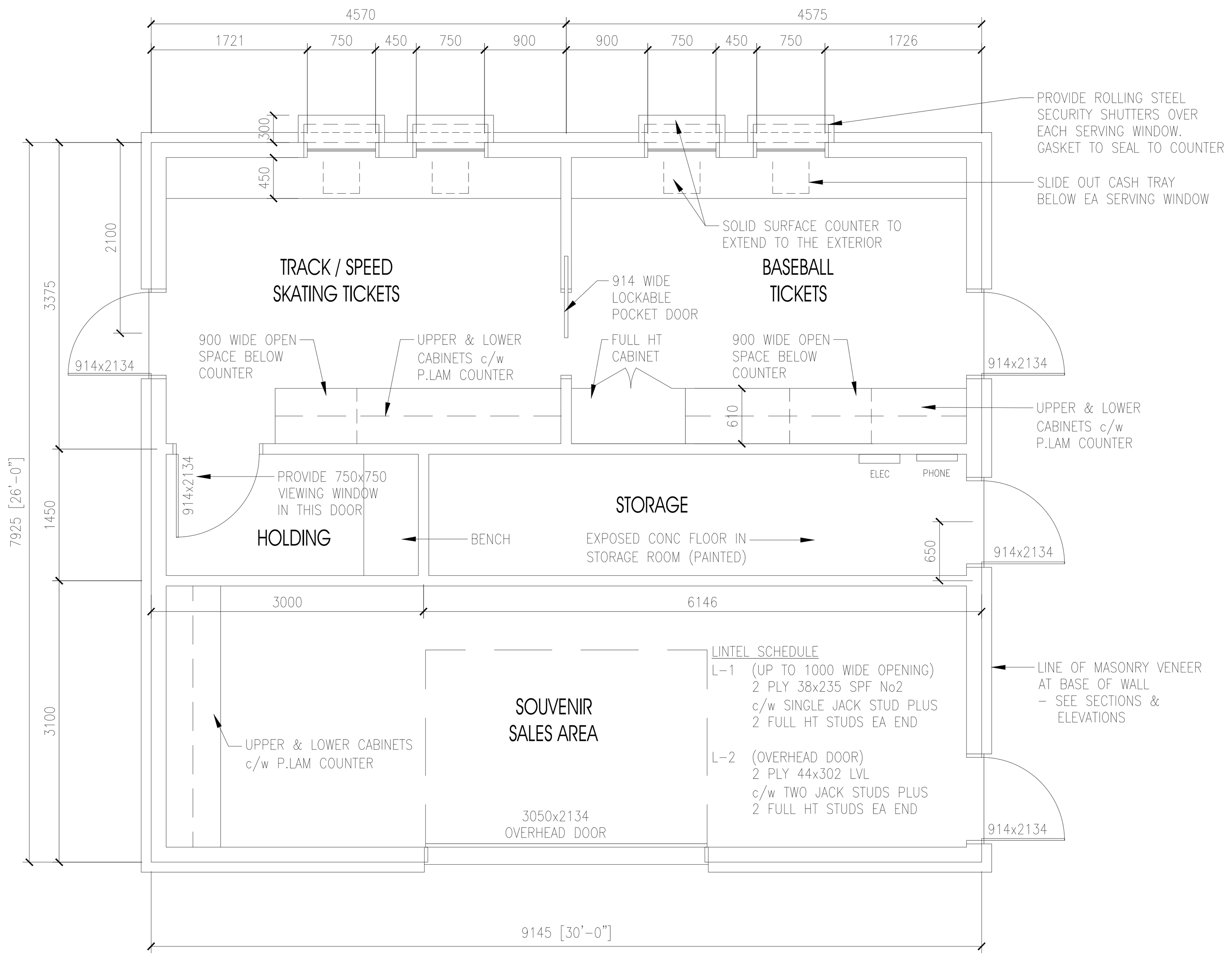
PROJECT
GORDIE HOWE SPORTS COMPLEX - PHASE 5
ELECTRICAL BUILDING
MULTI-SPORTS CENTRE
SASKATOON, SASKATCHEWAN

DRAWING NAME
FLOOR PLAN
BUILDING SECTION
ELEVATIONS
FOUNDATION PLAN

DRAWN : B.BESSEL
DATE : OCT 2017
FILE : 17-938
CHECKED
DRAWING
EB-1

Z:\2017\17-938 Gordie Howe Sports Complex - Phase 5\Drawings\Electrical Building\17-938 Electrical Building Plan.dwg (December 18, 2017 - 5:21pm)



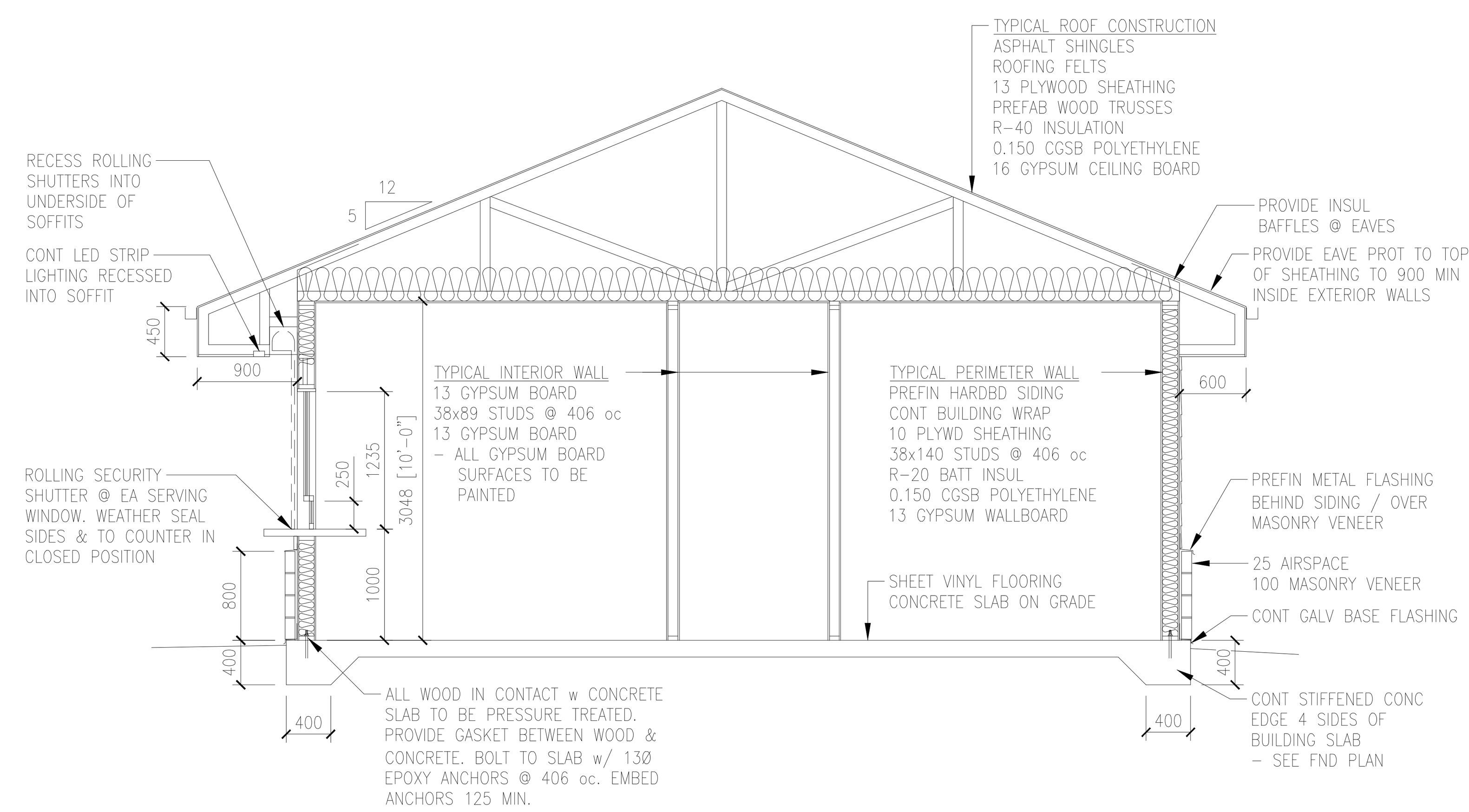
1 FLOOR PLAN
SCALE: 1:50

NOTE:

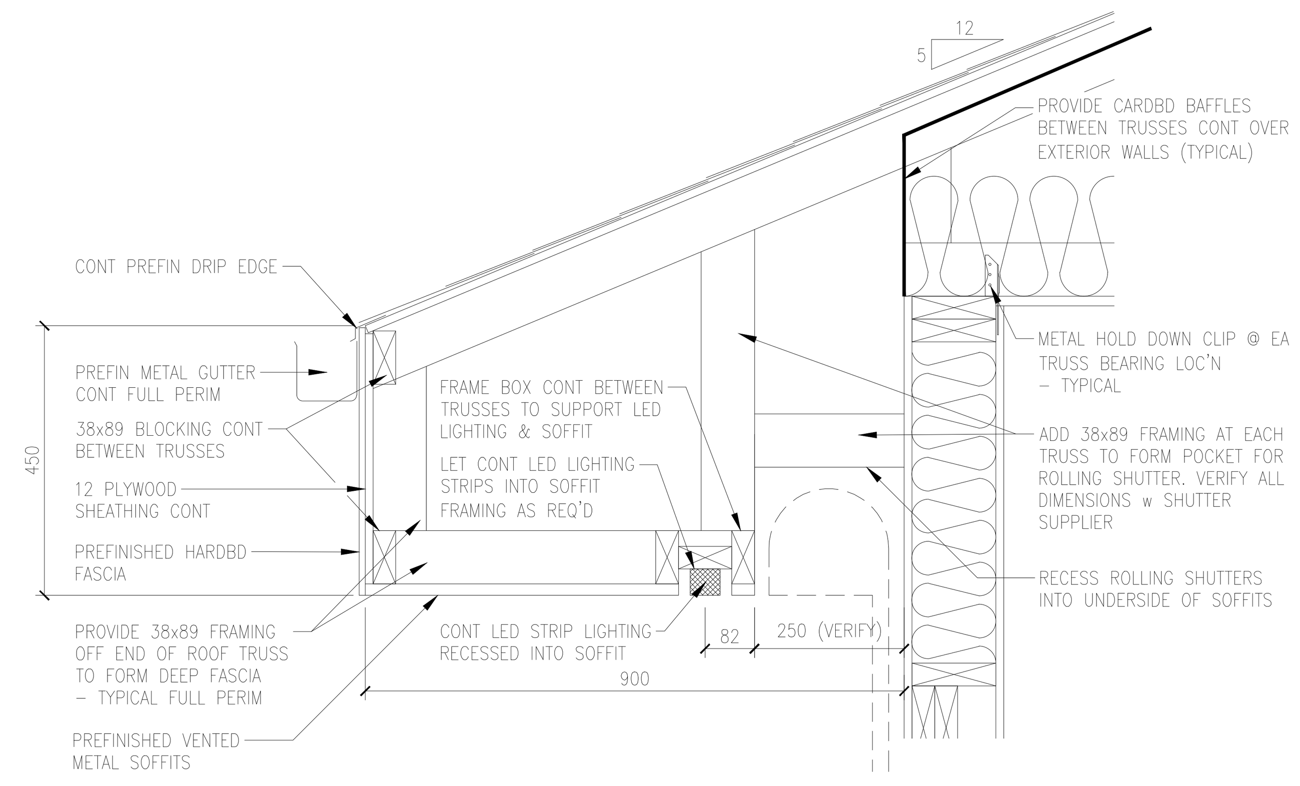
1. ALL EXTERIOR DOORS TO BE METAL INSULATED DOORS IN PRESSED STEEL FRAMES.
2. ALL INTERIOR DOORS TO BE HOLLOW METAL DOORS IN PRESSED STEEL FRAMES.
3. ALL DOOR HARDWARE TO BE COMMERCIAL GRADE TO MATCH CLUBHOUSE. PROVIDE ELECTRIC DOOR STRIKES AT DOORS FITTED WITH CARD ACCESS CONTROLS.
4. PROVIDE PEEPHOLES IN DOORS FROM TICKET AND MERCHANDISE SALES AREAS.

EXTERIOR FINISH SCHEDULE

- MASONRY VENEER - 190x390x90 SPLIT FACE, HAZELNUT TAN BY EXPOCRETE
- HARDIE BOARD SIDING - SELECT CEDARMILL, NAVAJO BEIGE, 152 EXPOSURE. TRIM BOARDS SMOOTH, ANTIQUE WHITE
- PREFINISHED METAL FASCIA, TRIM, GUTTERS, DOWNSPOUTS AND FLASHINGS - ANTIQUE IVORY
- SHINGLES - 25 YEAR ASPHALT, VINTAGE GREEN (IKO) OR SIMILAR
- DOORS & FRAMES PAINTED TO MATCH PREFINISHED METAL



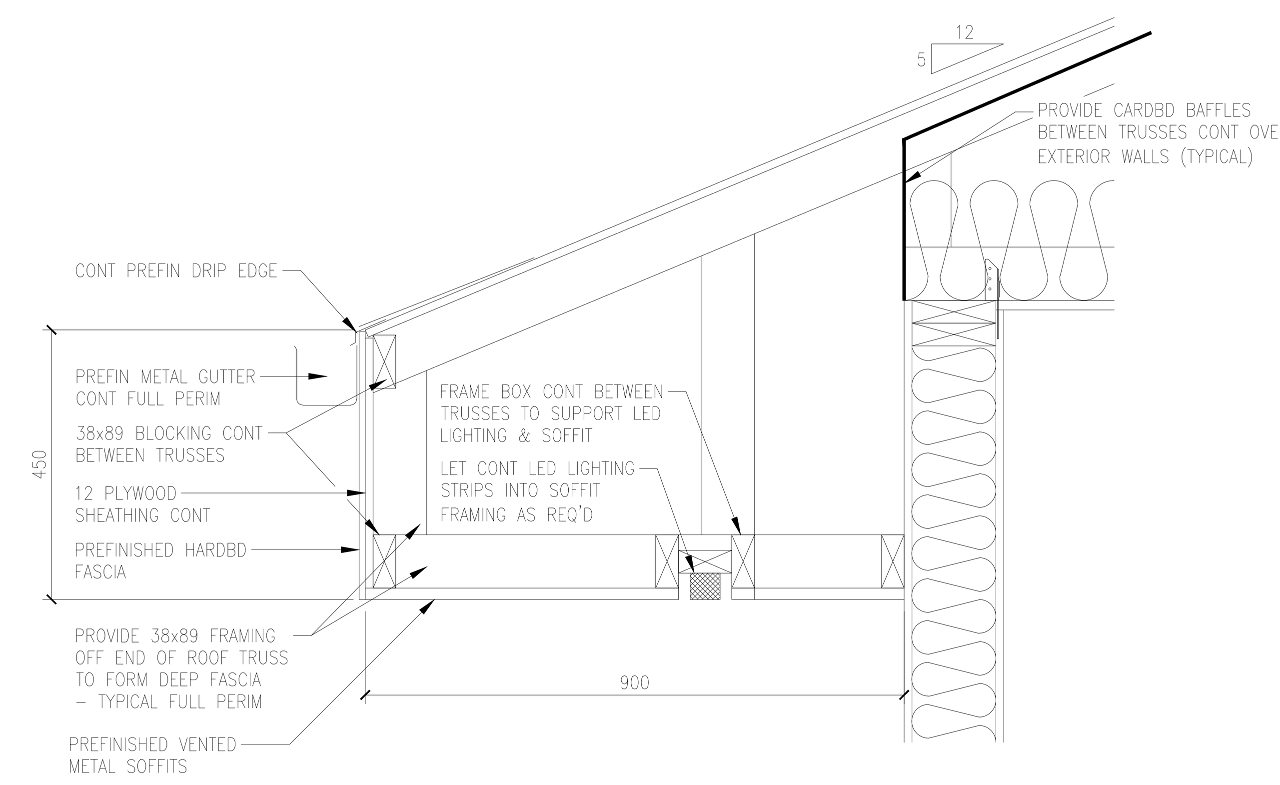
2 BUILDING SECTION
SCALE: 1:50



A SOFFIT DETAIL
SCALE: 1:10

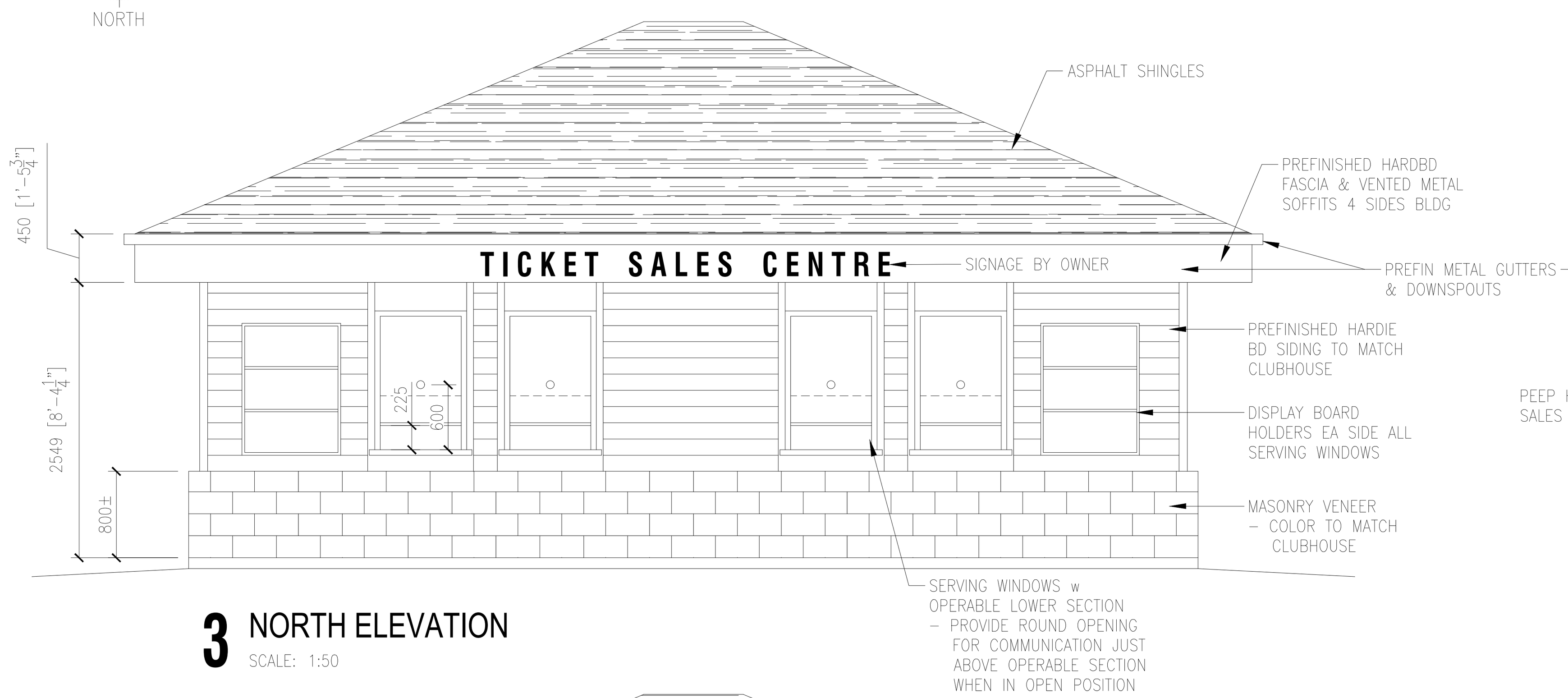
TYPICAL CONTINUOUS OVER SERVING WINDOWS ONLY. REFER TO DETAIL 'B' ADJACENT FOR LIGHTING INSTALLATION EACH SIDE OF SERVING WINDOWS

REVIEW SET NOT FOR CONSTRUCTION DATE: DEC 22, 2017

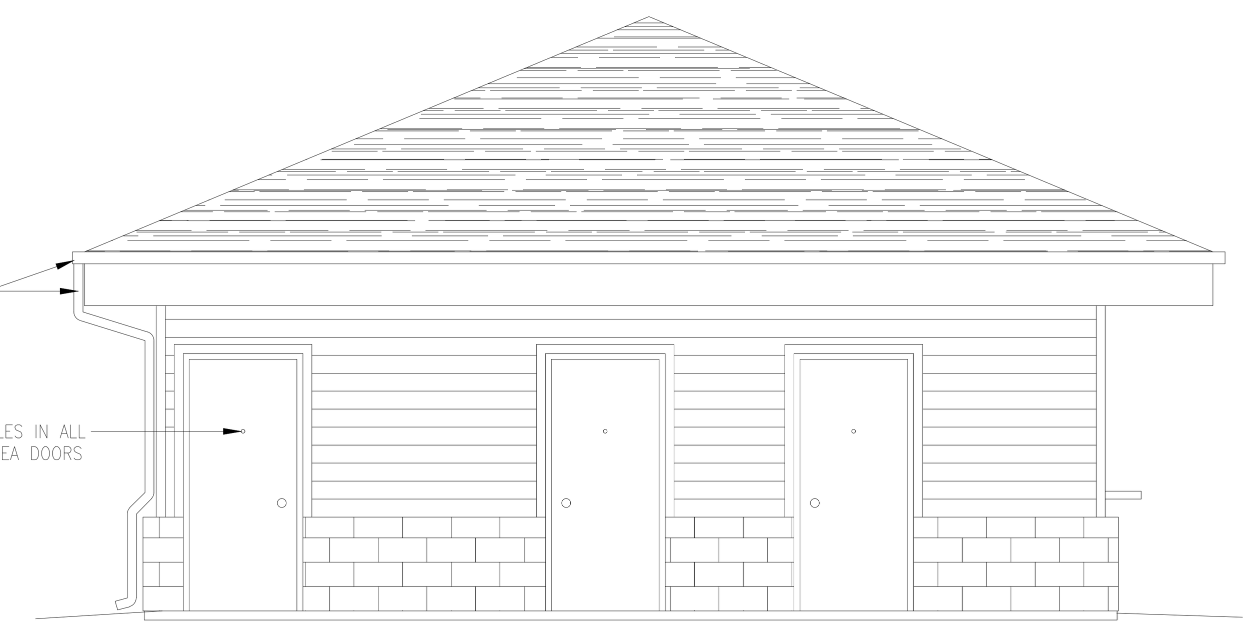


B SOFFIT DETAIL
SCALE: 1:10

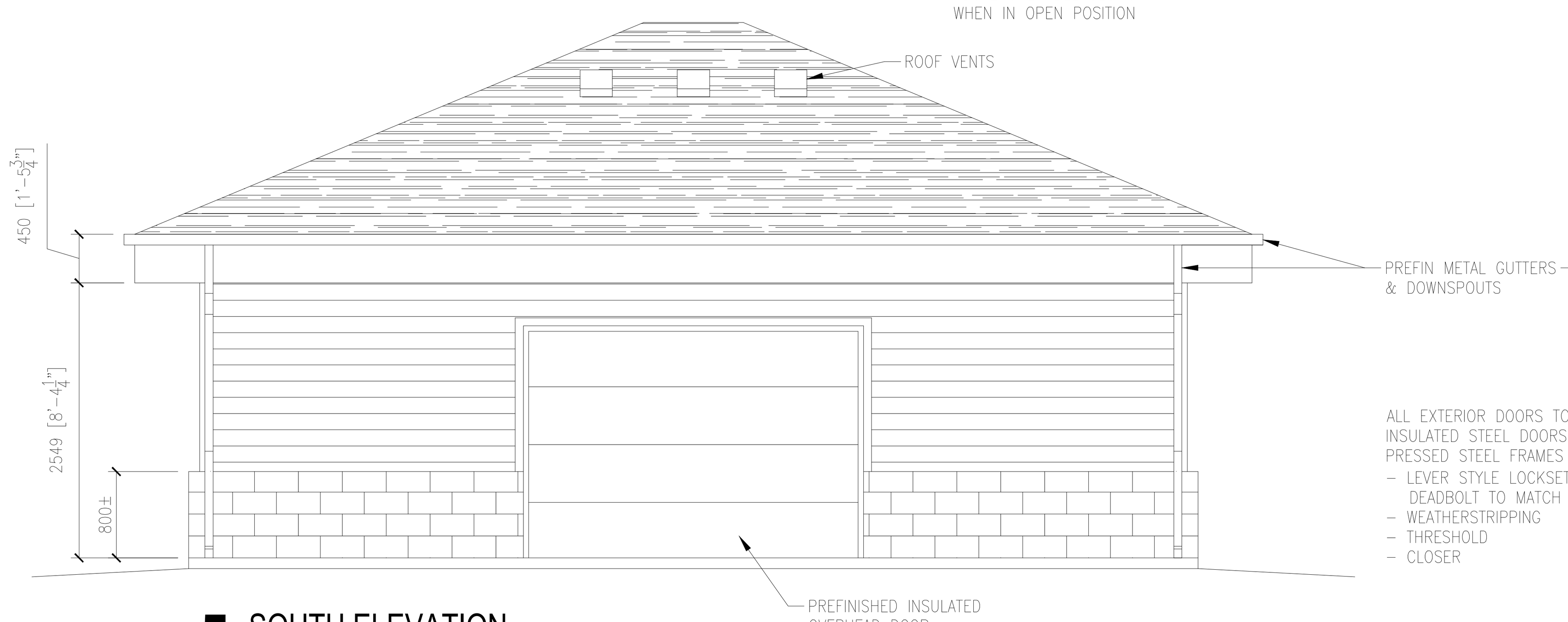
TYPICAL CONTINUOUS EACH SIDE OF SERVING WINDOWS ONLY. REFER TO DETAIL 'A' ADJACENT FOR LIGHTING INSTALLATION OVER SERVING WINDOWS



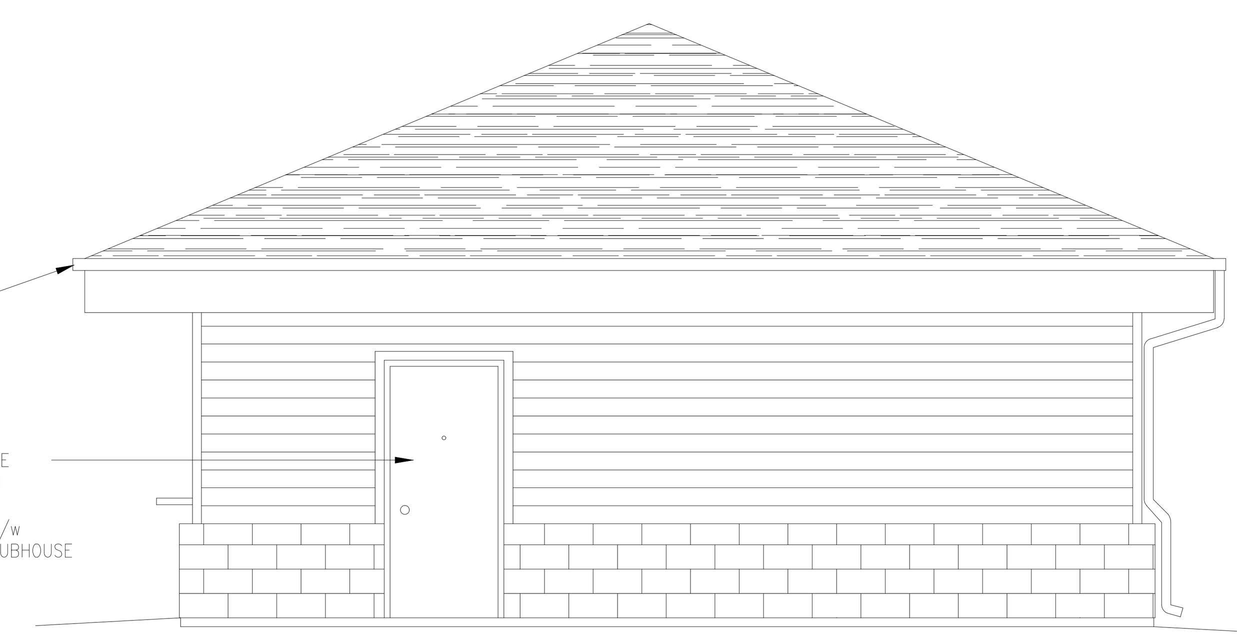
3 NORTH ELEVATION
SCALE: 1:50



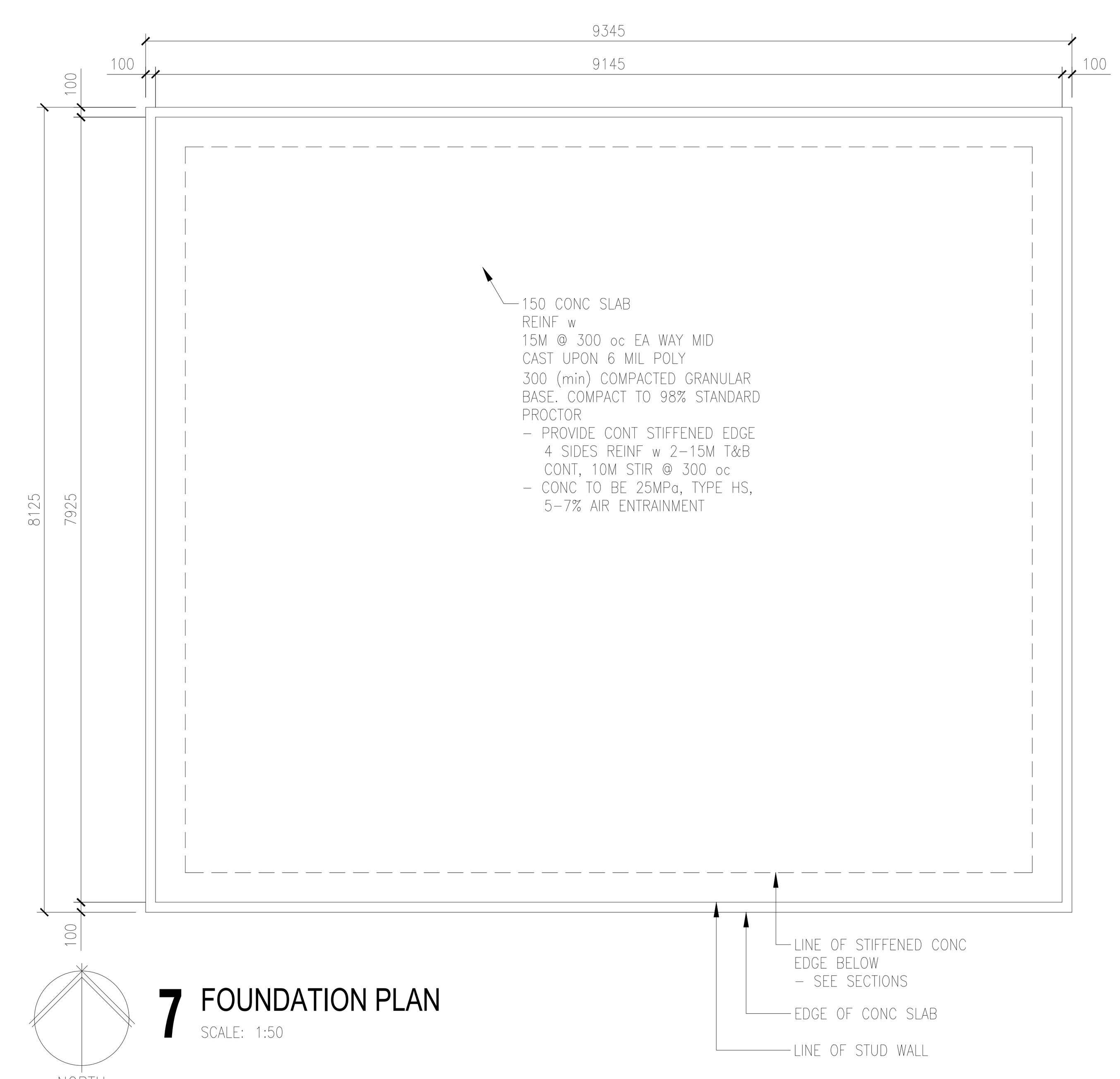
4 EAST ELEVATION
SCALE: 1:50



5 SOUTH ELEVATION
SCALE: 1:50



6 WEST ELEVATION
SCALE: 1:50



7 FOUNDATION PLAN
SCALE: 1:50

NOTES:

1. Do not scale drawings.
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REVISIONS

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FRIENDS OF THE BOWL FOUNDATION

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PROJECT

GORDIE HOWE SPORTS COMPLEX - PHASE 5 MULTI-SPORT TICKET CENTRE

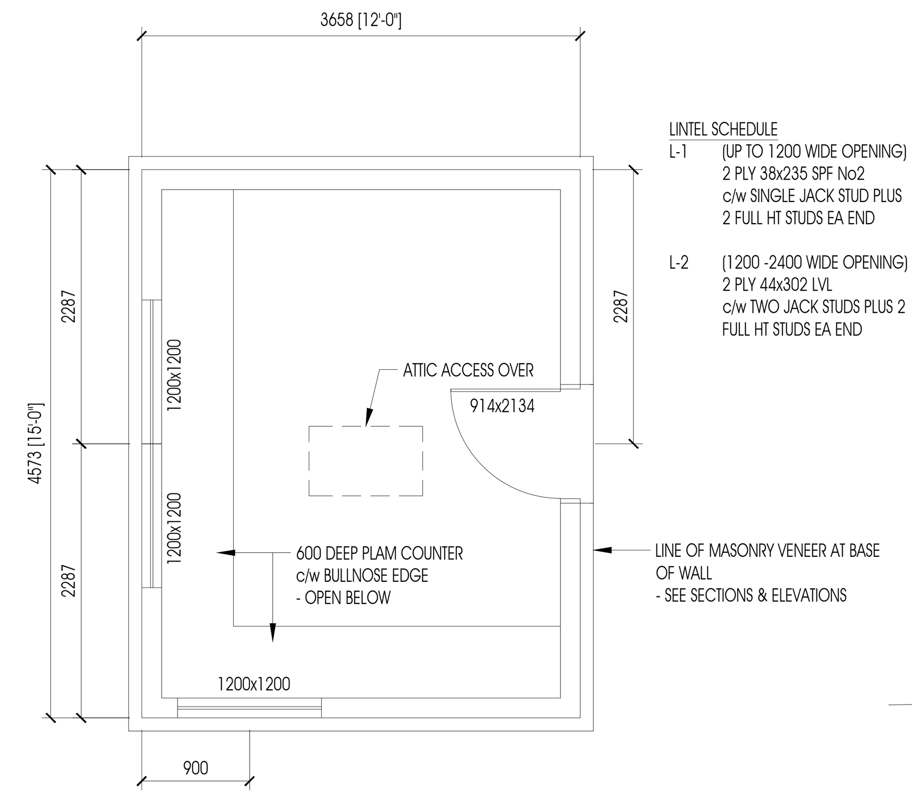
CLARENCE DOWNEY OVAL
SASKATOON, SASKATCHEWAN

DRAWING NAME

FLOOR PLAN
BUILDING SECTION
ELEVATIONS

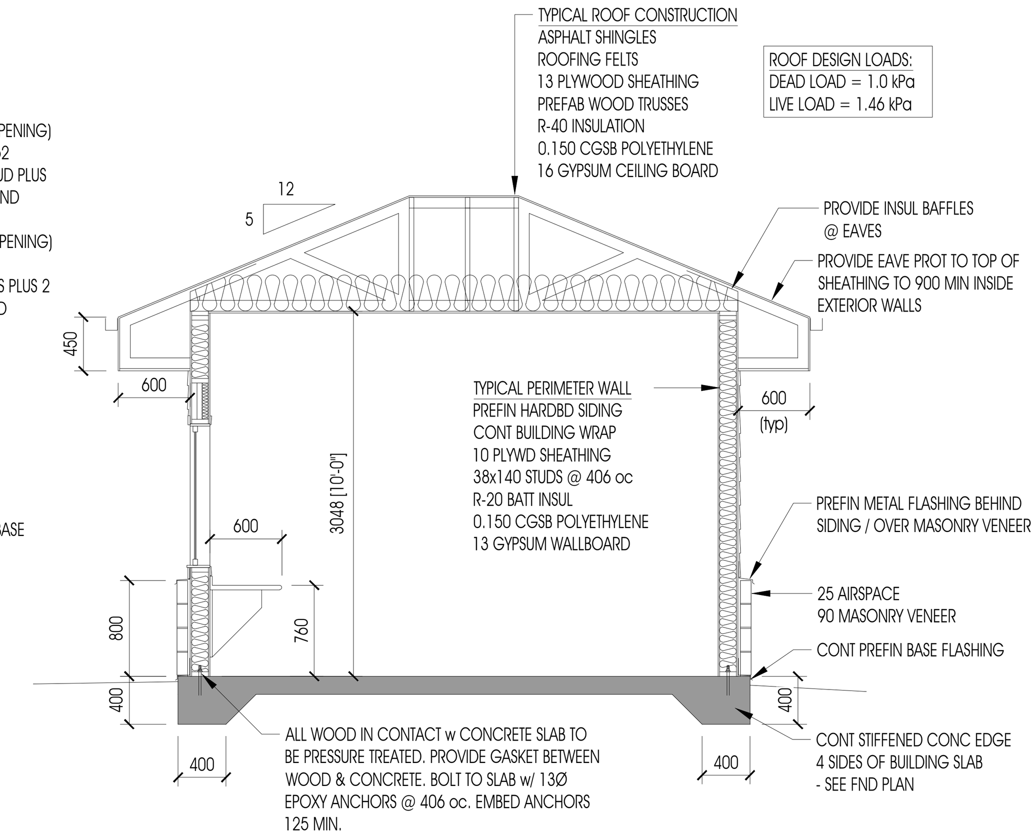
DRAWN	B.BESSEL	DRAWING
DATE	OCT 2017	
FILE	17-938	MSB-1
CHECKED		

Z:\2017\17-938 Gordie Howe Sports Complex - Phase 5\Drawings\Track Ticket Centre\17-938 Track Ticket Booth Plan.dwg (December 18, 2017 - 5:30pm)



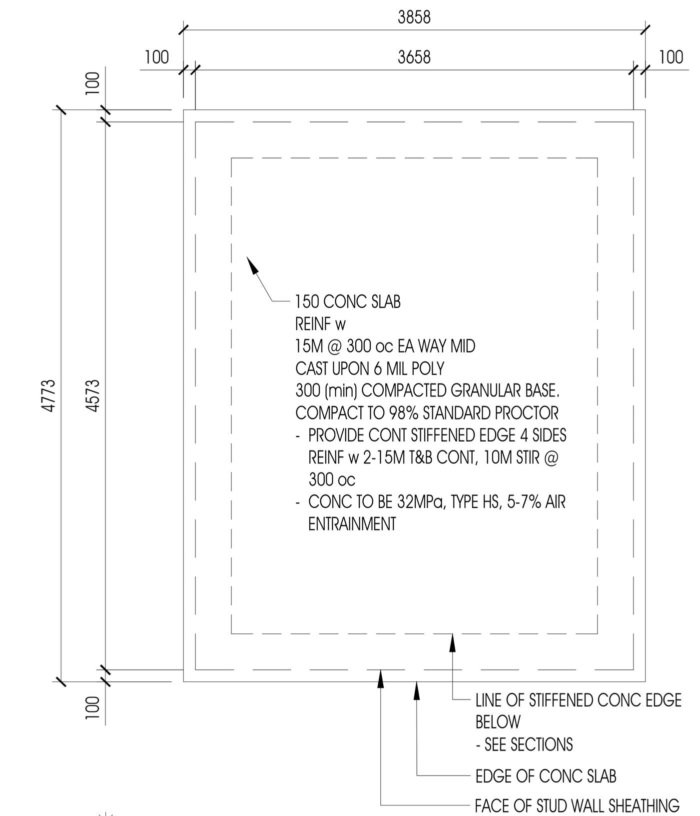
1 FLOOR PLAN

SCALE: 1:50



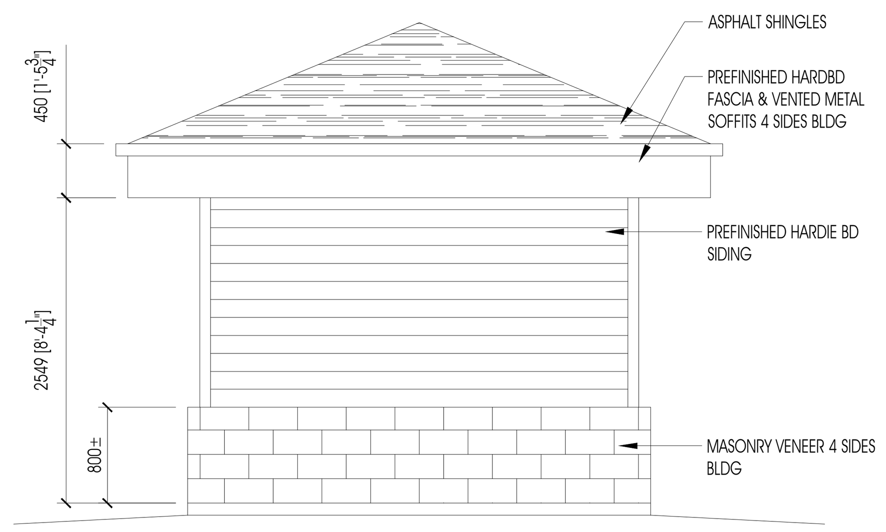
2 BUILDING SECTION

SCALE: 1:50



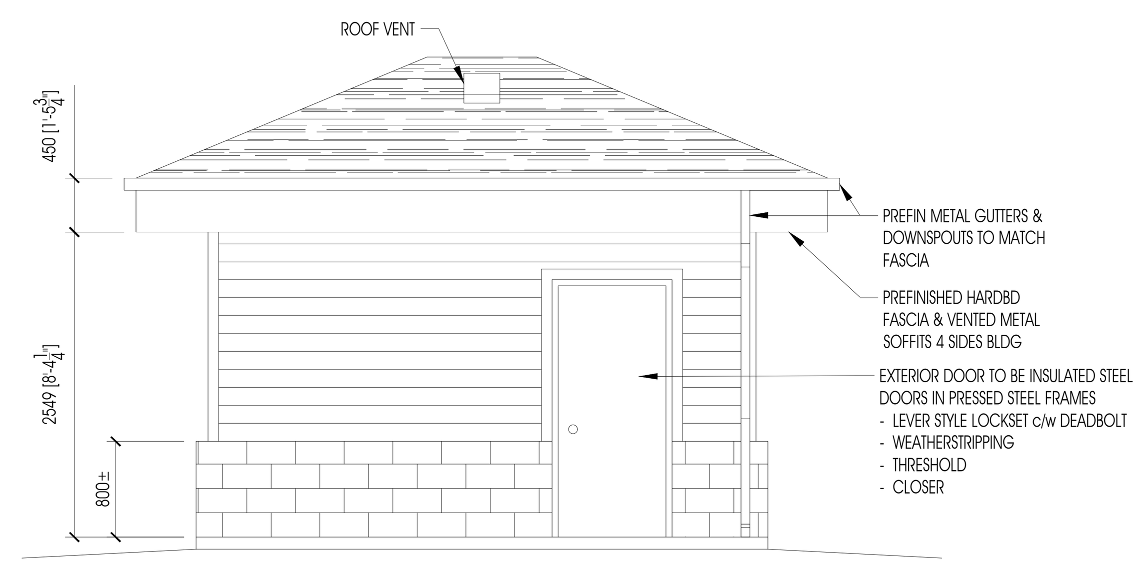
7 FOUNDATION PLAN

SCALE: 1:50



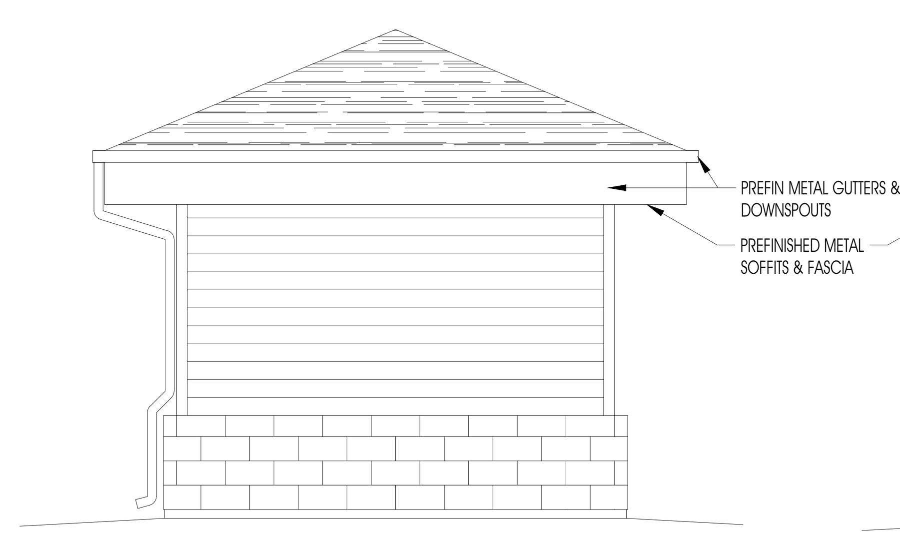
3 SOUTH ELEVATION

SCALE: 1:50



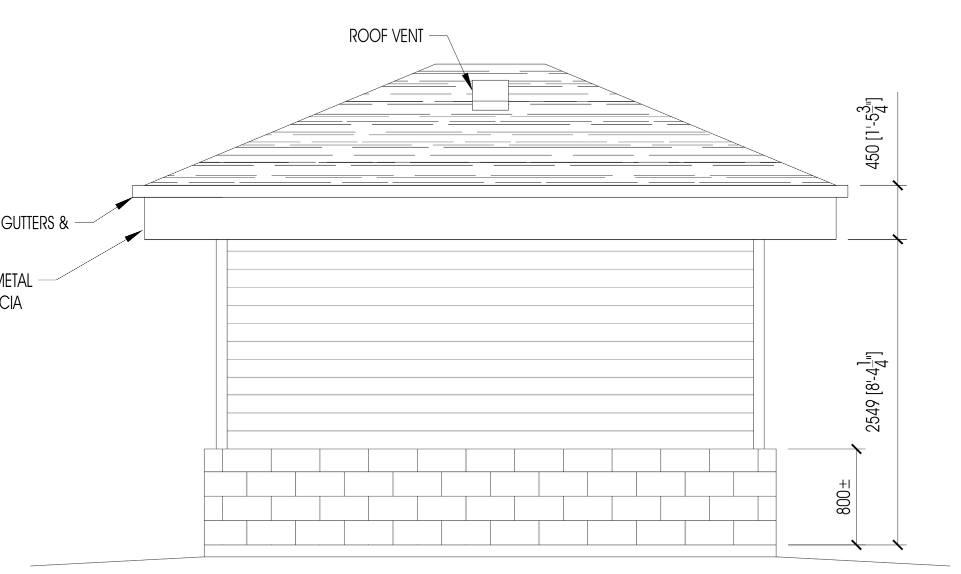
4 EAST ELEVATION

SCALE: 1:50



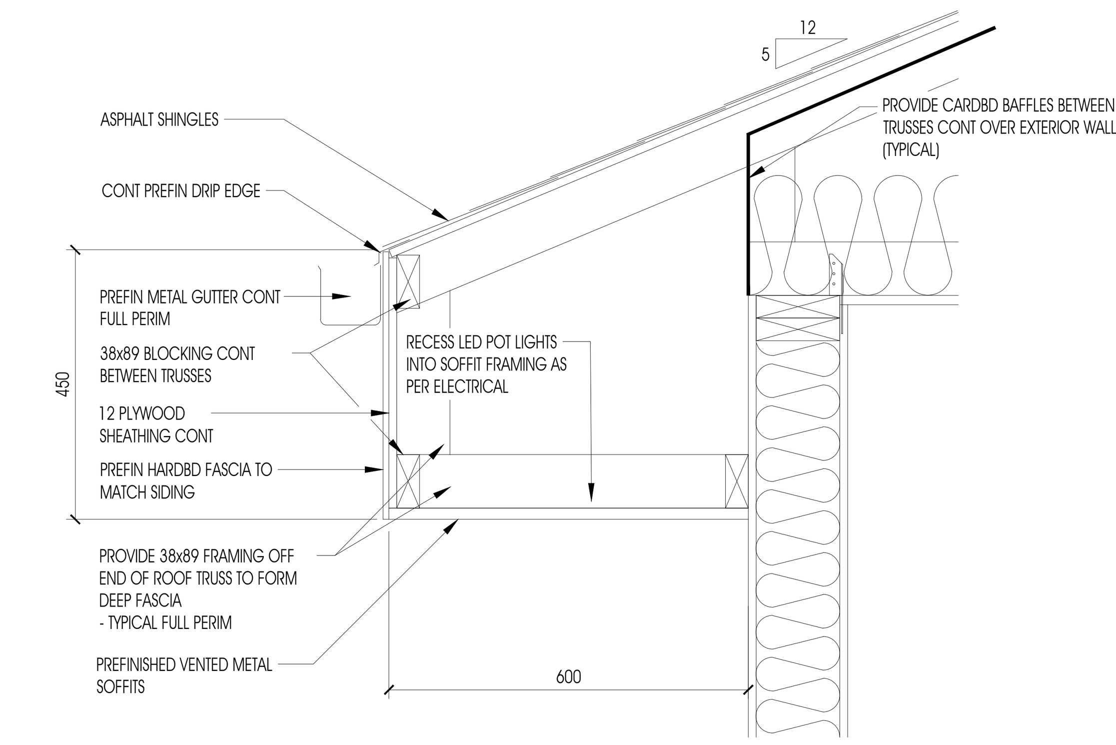
5 NORTH ELEVATION

SCALE: 1:50



6 WEST ELEVATION

SCALE: 1:50



A TYPICAL SOFFIT DETAIL

SCALE: 1:10

NOTE:
1. ALL EXTERIOR DOORS TO BE METAL INSULATED DOORS IN PRESSED STEEL FRAMES c/w WEATHERSTRIPPING, THRESHOLD, SWEEPS & CLOSERS.
2. ALL DOORS TO BE FITTED WITH COMMERCIAL GRADE LEVER STYLE LOCKSETS BY SCHLAGE. EXTERIOR DOORS COMPLETE WITH DEADBOLTS IN ADDITION TO LOCKSET. HARDWARE KEYED TO OWNER REQUIREMENTS.

EXTERIOR FINISH SCHEDULE
- MASONRY VENEER - 190x390x90 SPLIT FACE, HAZELNUT TAN BY EXPOCRETE
- HARDIE BOARD SIDING - SELECT CEDARMILL, NAVAJO BEIGE, 152 EXPOSURE. TRIM BOARDS SMOOTH, ANTIQUE WHITE
- PREFINISHED METAL FASCIA, TRIM, GUTTERS, DOWNSPOUTS AND FLASHINGS - ANTIQUE IVORY
- SHINGLES - 25 YEAR ASPHALT, VINTAGE GREEN (IKO) OR SIMILAR
- DOORS & FRAMES PAINTED TO MATCH PREFINISHED METAL

NOTES:
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No.	DESCRIPTION	DATE
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REVIEW SET NOT FOR CONSTRUCTION
DATE: DEC 22, 2017

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NUMBER **C1422**
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DISCIPLINE	SASK. REG. No.	SIGNATURE
STRUCTURAL	4364	

PROJECT

GORDIE HOWE SPORTS COMPLEX - PHASE 5
NORDIC SKI TIMING HUT

MULTI-SPORTS CENTRE
SASKATOON, SASKATCHEWAN

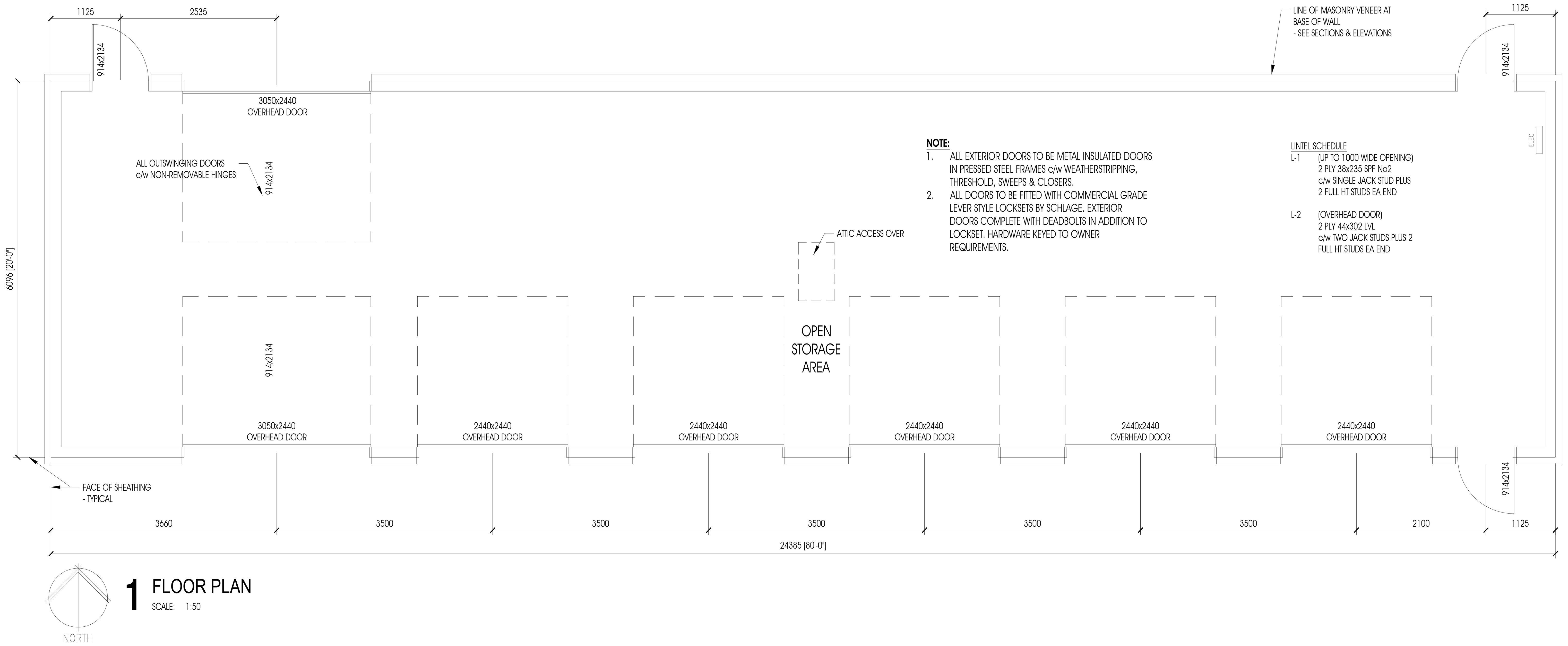
DRAWING NAME

FLOOR PLAN
BUILDING SECTION
ELEVATIONS
FOUNDATION PLAN

DRAWN : B.BESSEL
DATE : OCT 2017
FILE : 17-938
CHECKED

DRAWING
SH-1

Z:\2017\17-938 Gordie Howe Sports Complex - Phase 5\Drawings\Ski Hut\17-938 Ski Hut Building Plan.dwg (December 18, 2017 - 5:23pm)



1 FLOOR PLAN
SCALE: 1:50

NOTE:
1. ALL EXTERIOR DOORS TO BE METAL INSULATED DOORS IN PRESSED STEEL FRAMES c/w WEATHERSTRIPPING, THRESHOLD, SWEEPS & CLOSERS.
2. ALL DOORS TO BE FITTED WITH COMMERCIAL GRADE LEVER STYLE LOCKSETS BY SCHLAGE. EXTERIOR DOORS COMPLETE WITH DEADBOLTS IN ADDITION TO LOCKSET. HARDWARE KEYED TO OWNER REQUIREMENTS.

LINTEL SCHEDULE
L-1 (UP TO 1000 WIDE OPENING)
2 PLY 38x235 SPF No2
c/w SINGLE JACK STUD PLUS
2 FULL HT STUDS EA END

L-2 (OVERHEAD DOOR)
2 PLY 44x302 LVL
c/w TWO JACK STUDS PLUS 2
FULL HT STUDS EA END

EXTERIOR FINISH SCHEDULE
- MASONRY VENEER - 190x390x90 SPLIT FACE, HAZELNUT TAN BY EXPOCRETE
- HARDIE BOARD SIDING - SELECT CEDARMILL, NAVAJO BEIGE, 152 EXPOSURE. TRIM BOARDS SMOOTH, ANTIQUE WHITE
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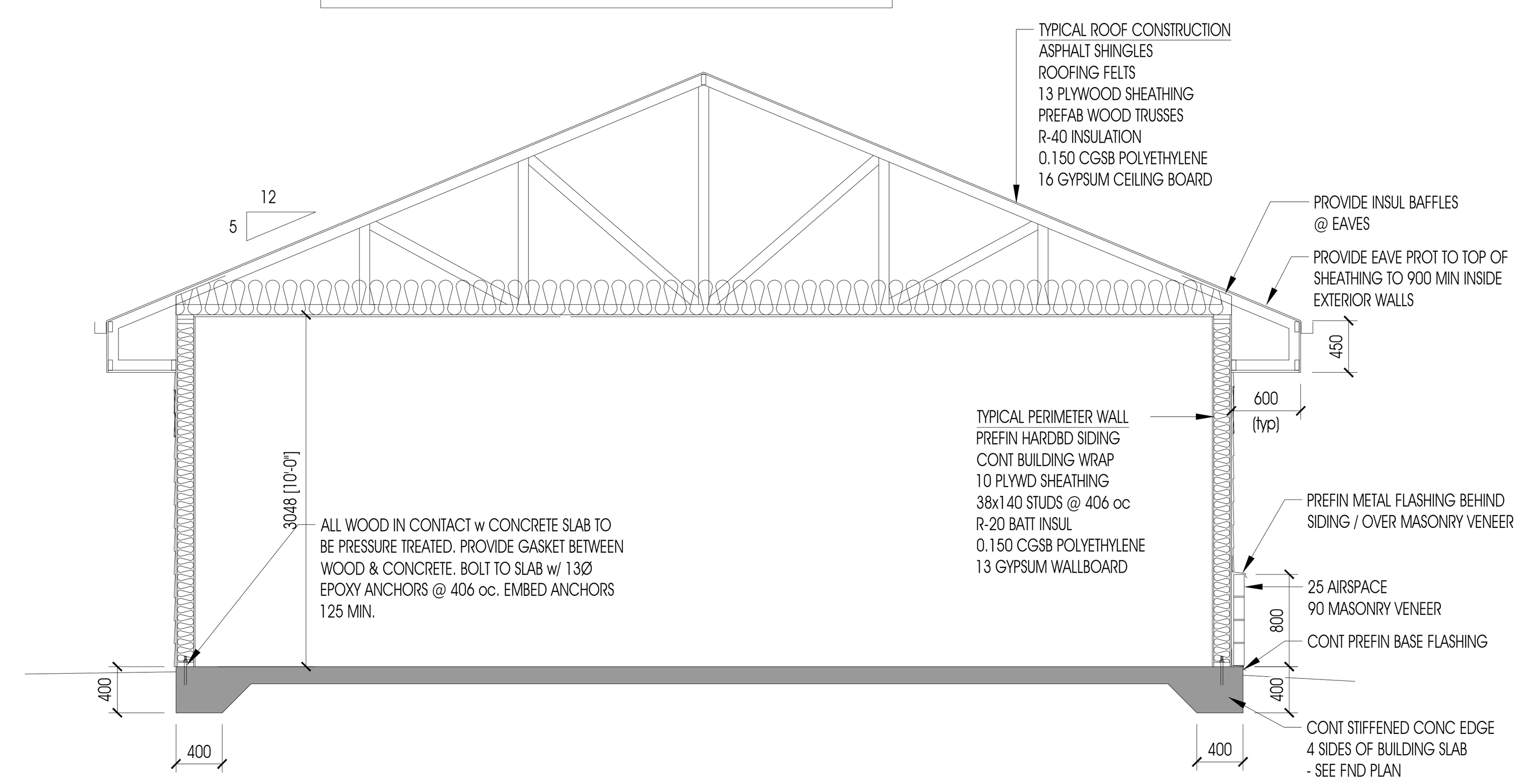
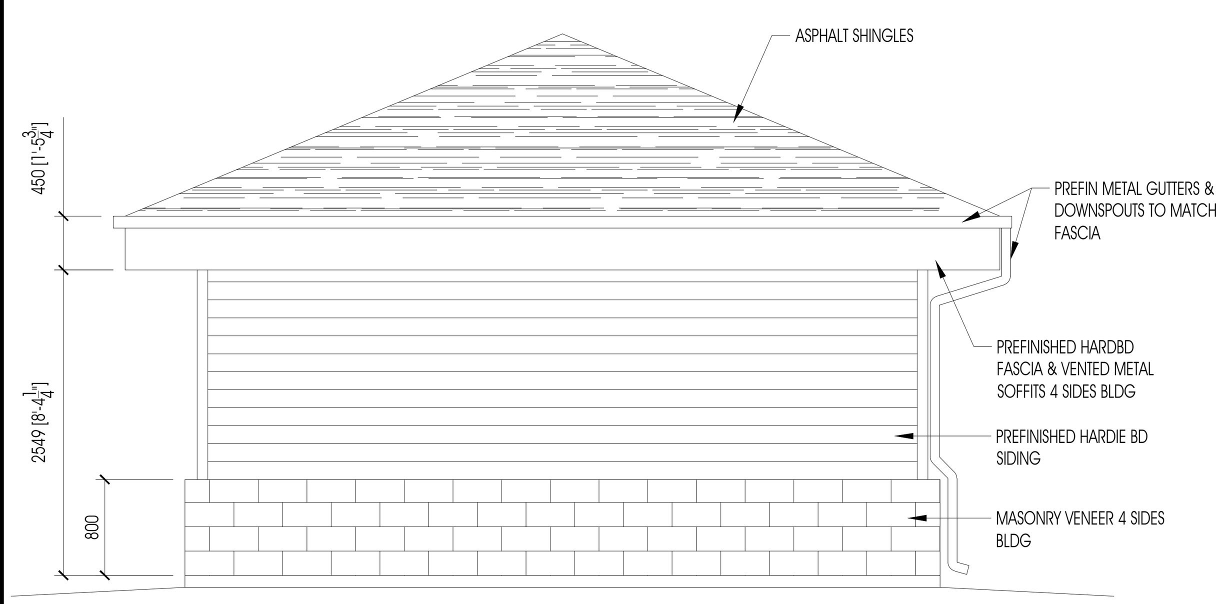
- DOORS & FRAMES PAINTED TO MATCH PREFINISHED METAL

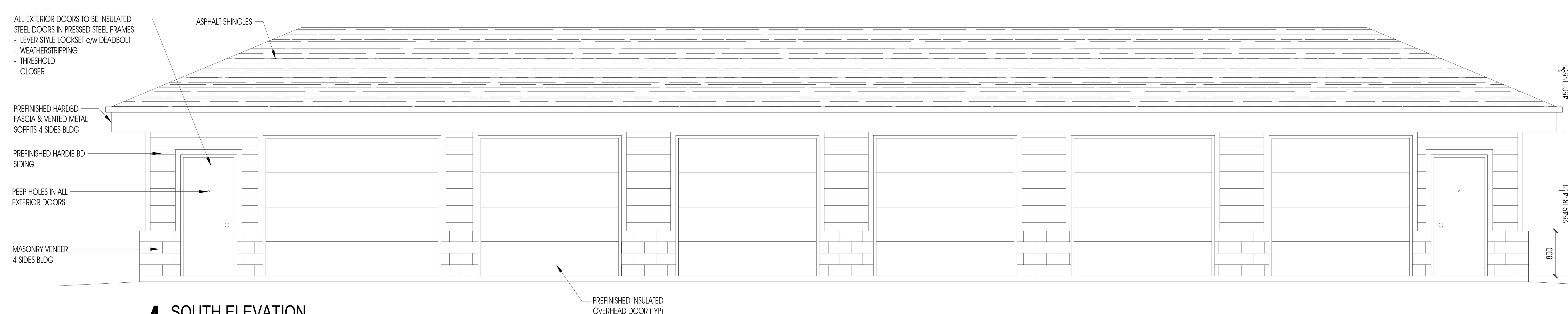


2 BUILDING SECTION
SCALE: 1:50

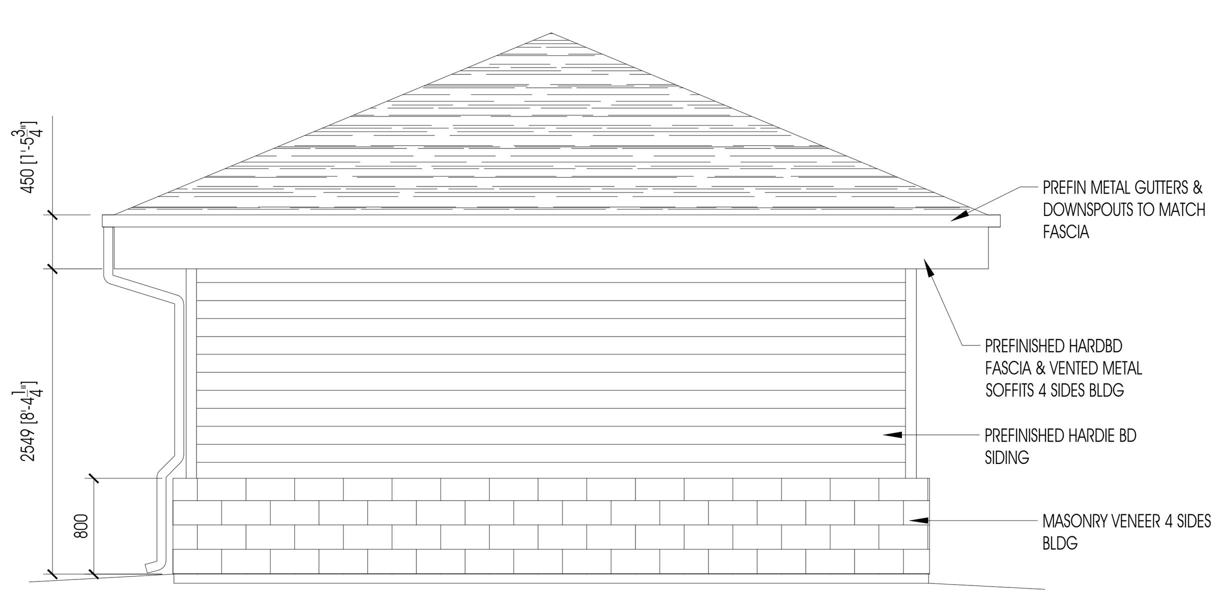
REVIEW SET
NOT FOR
CONSTRUCTION
DATE: DEC 22, 2017



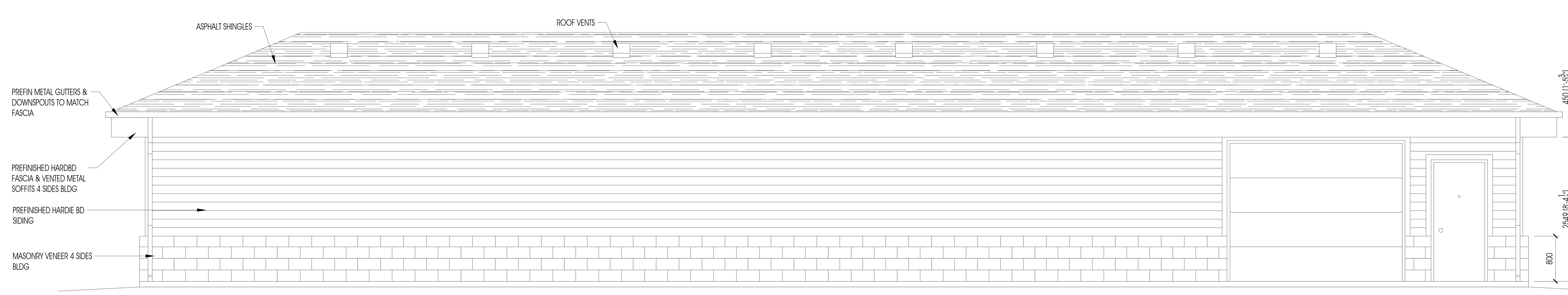
3 EAST ELEVATION
SCALE: 1:50



4 SOUTH ELEVATION
SCALE: 1:50



5 WEST ELEVATION
SCALE: 1:50



6 NORTH ELEVATION
SCALE: 1:50

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NUMBER C1422
PERMISSION TO CONSULT HELD BY:

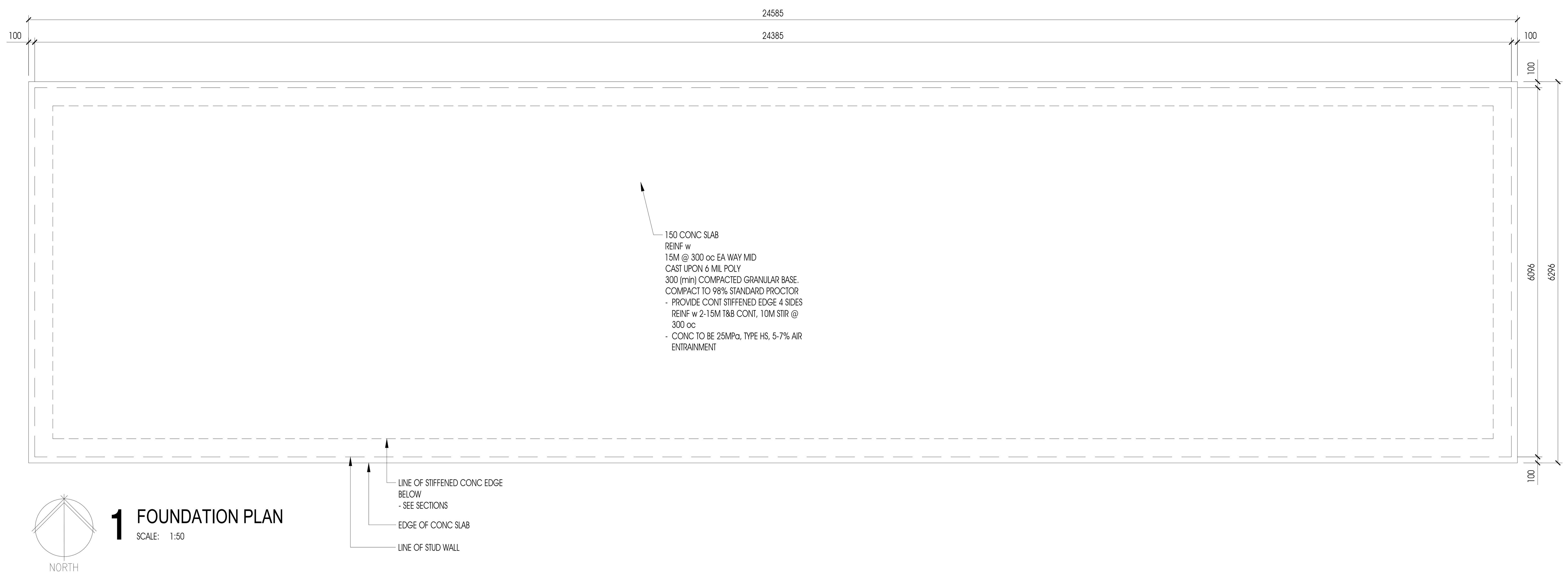
DISCIPLINE	SASK. REG. No.	SIGNATURE
STRUCTURAL	4364	

PROJECT
GORDIE HOWE SPORTS COMPLEX - PHASE 5
TRACK STORAGE BUILDING
MULTI-SPORT CENTRE
SASKATOON, SK

DRAWING NAME
FLOOR PLAN
BUILDING SECTION
ELEVATIONS

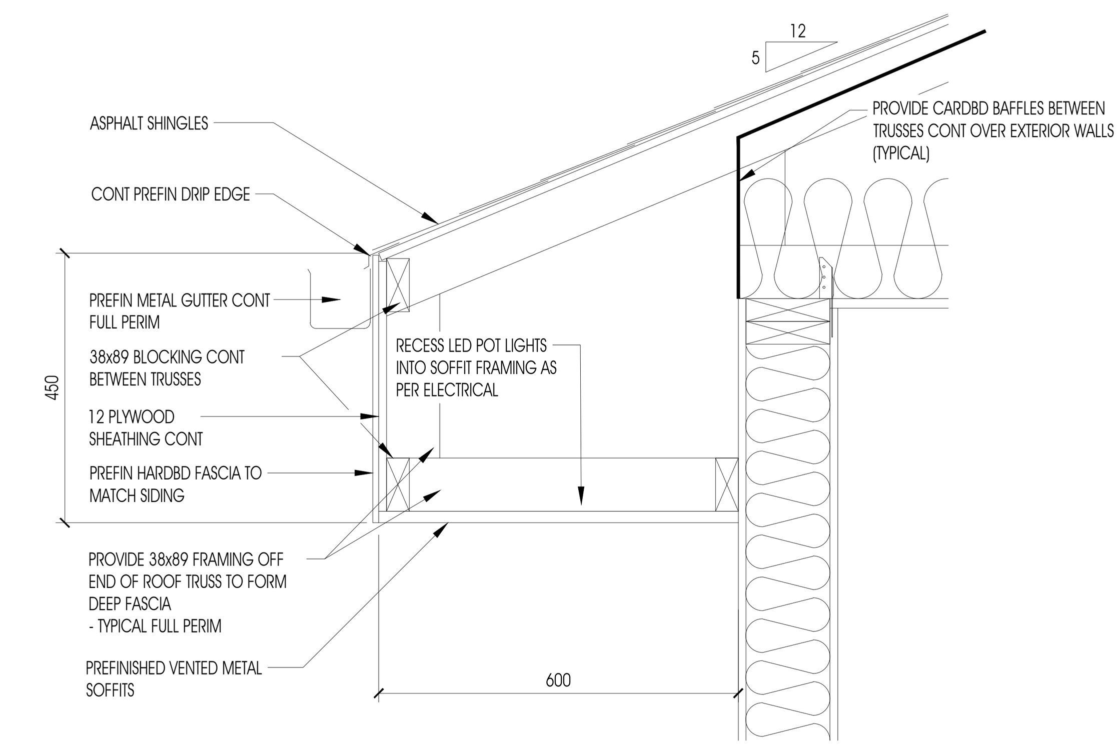
DRAWN : B.BESSEL
DATE : OCT 2017
FILE : 17-938
CHECKED
DRAWING
TS-2

Z:\2017\17-938 Gordie Howe Sports Complex - Phase 5\Drawings\Track Storage Garage\17-938 Track and Skiing Storage Garage Plan.dwg (December 18, 2017 - 5:24pm)



1 FOUNDATION PLAN

SCALE: 1:50



A TYPICAL SOFFIT DETAIL

SCALE: 1:10

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STRUCTURAL	4364	

PROJECT

GORDIE HOWE SPORTS COMPLEX - PHASE 5
TRACK STORAGE BUILDING

MULTI-SPORT CENTRE
SASKATOON, SK

DRAWING NAME

FOUNDATION PLAN
SOFFIT DETAIL

DRAWN : B.BESSEL
DATE : OCT 2017
FILE : 17-938
CHECKED

DRAWING
TS-3

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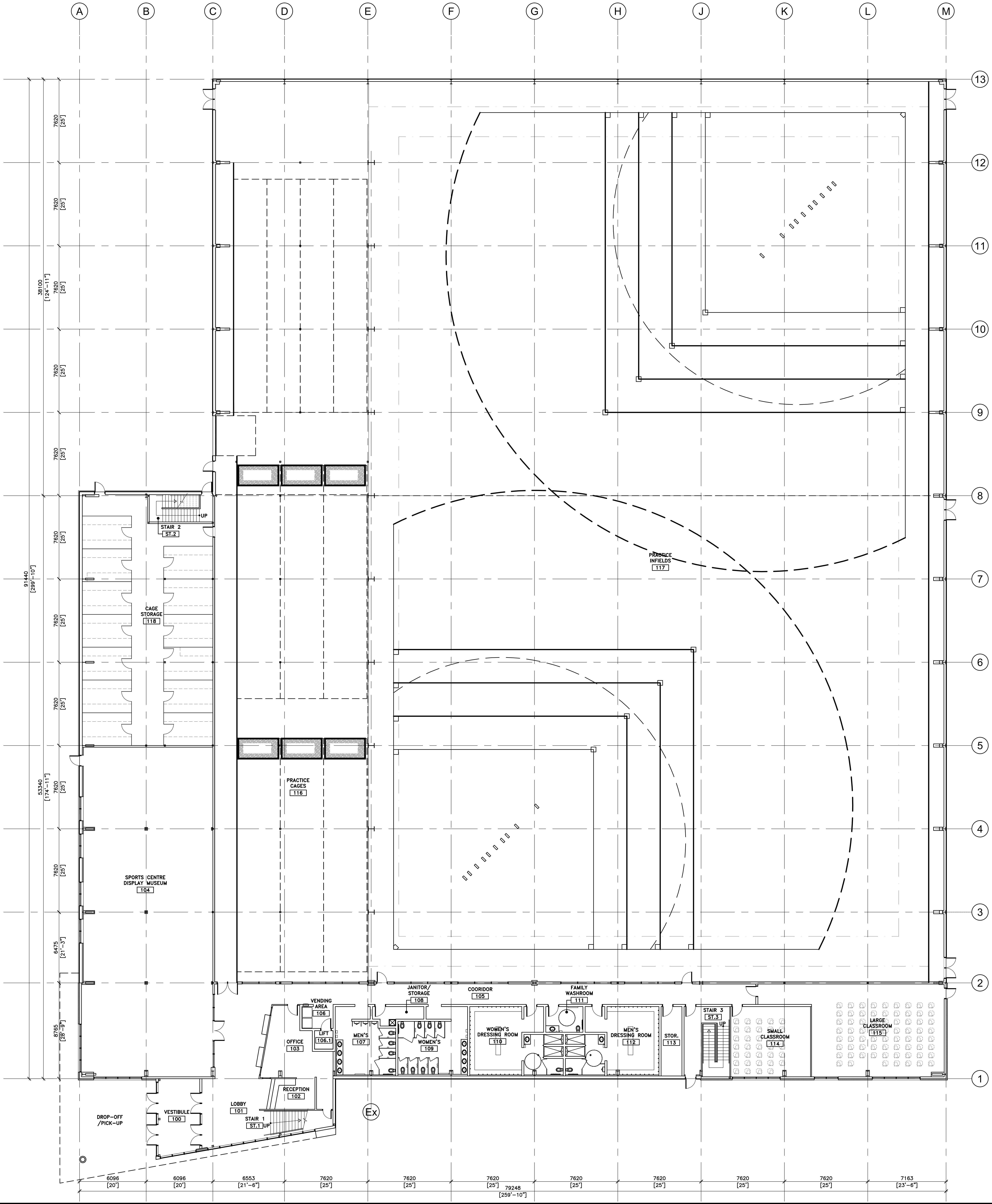

NORTH

1 MAIN FLOOR PLAN
SCALE 1:150

NOTES:

1. [illegible]
2. [illegible]
3. [illegible]

REVISIONS

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PROJECT

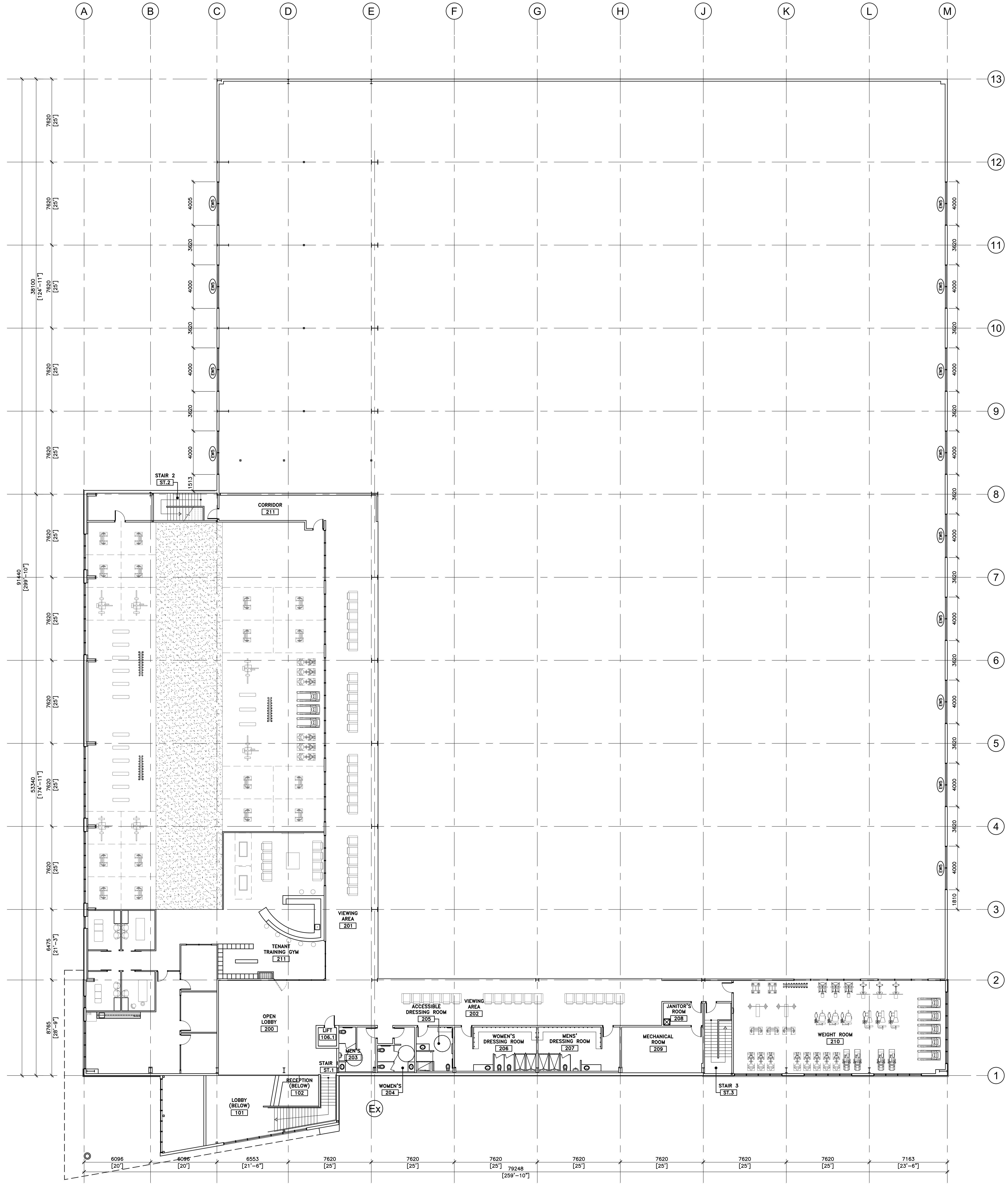
GORDIE HOWE SPORTS COMPLEX - PHASE 5 TRAINING CENTRE

GORDIE HOWE PARK - 1525 AVE. P SOUTH
SASKATOON, SASKATCHEWAN

DRAWING NAME

MAIN FLOOR PLAN

DRAWN	KMT	DRAWING
DATE	DECEMBER 2017	A1.0
FILE	6390	
CHECKED	DCE	



NORTH

1 SECOND FLOOR PLAN
SCALE 1:150

NOTES:

1. [illegible]
2. [illegible]
3. [illegible]

REVISIONS

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PROJECT

GORDIE HOWE SPORTS COMPLEX - PHASE 5 TRAINING CENTRE

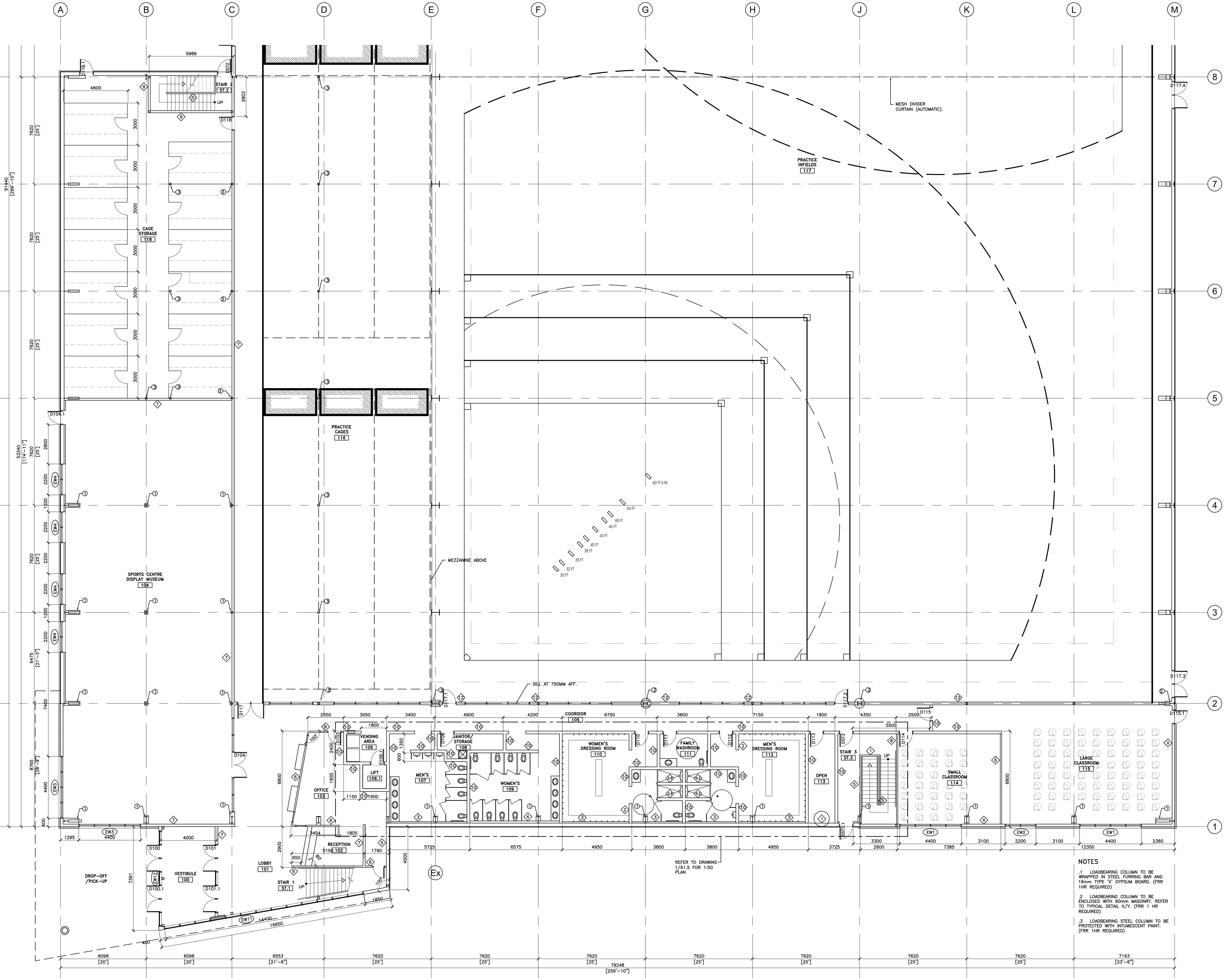
GORDIE HOWE PARK - 1525 AVE. P SOUTH
SASKATOON, SASKATCHEWAN

DRAWING NAME

SECOND FLOOR PLAN

DRAWN KMT
DATE DECEMBER 2017
FILE 6390
CHECKED DCE

DRAWING
A1.1



1 MAIN FLOOR PARTIAL PLAN A
SCALE 1:100

NOTES

.1 LOADBEARING COLUMN TO BE WRAPPED IN STEEL FURRING BAR AND 16mm TYPE 'X' GYPSUM BOARD. (FRR 1HR REQUIRED)

.2 LOADBEARING COLUMN TO BE ENCLOSED WITH 90mm MASONRY. REFER TO TYPICAL DETAIL X/Y. (FRR 1 HR REQUIRED)

.3 LOADBEARING STEEL COLUMN TO BE PROTECTED WITH INTUMESCENT PAINT. (FRR 1HR REQUIRED)

NOTES:

1. [illegible]
2. [illegible]
3. [illegible]

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eema@sasktel.net

PROJECT

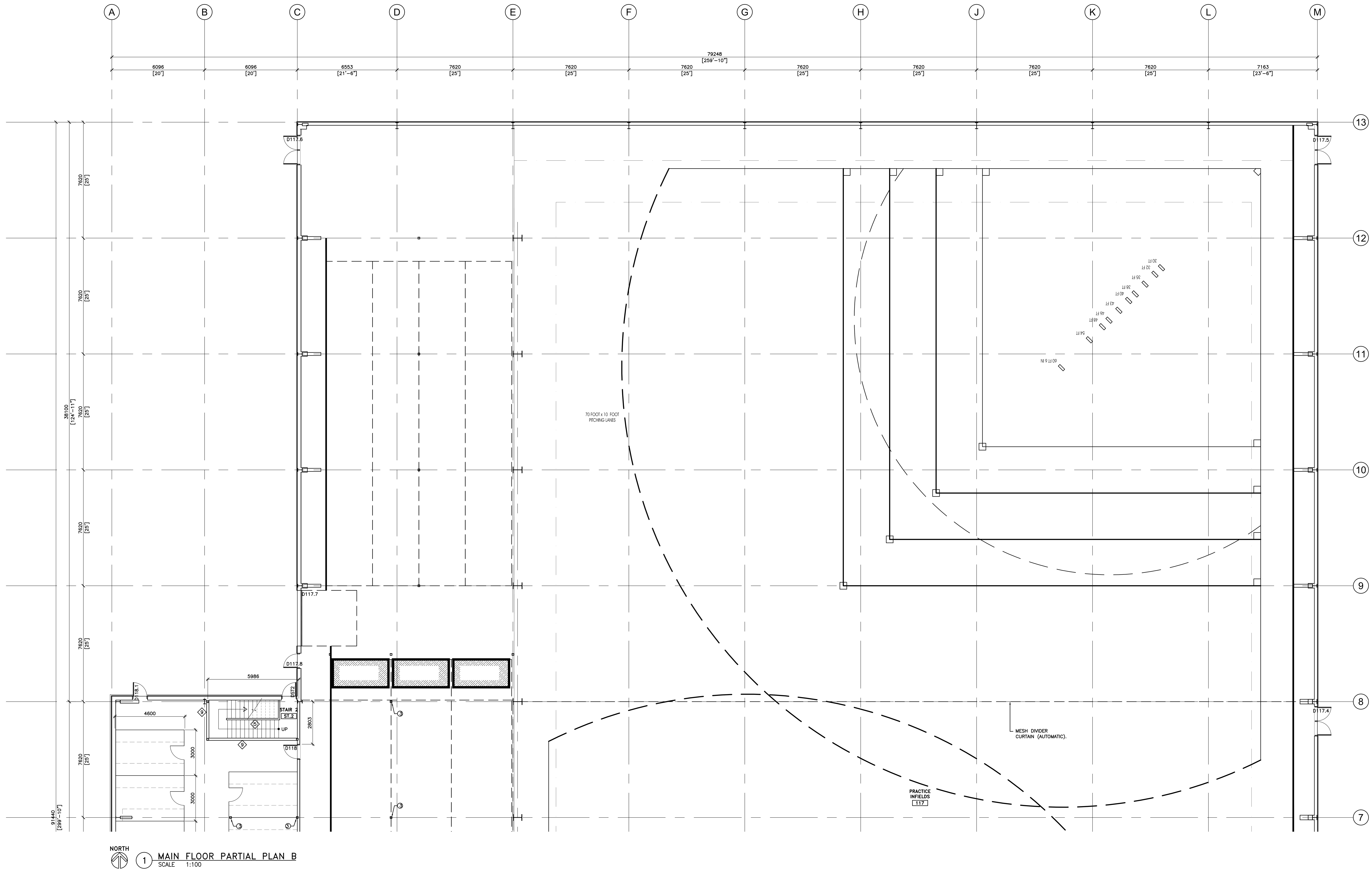
GORDIE HOWE SPORTS COMPLEX - PHASE 5 TRAINING CENTRE

GORDIE HOWE PARK - 1525 AVE. P SOUTH
SASKATOON, SASKATCHEWAN

DRAWING NAME

MAIN FLOOR PARTIAL PLAN A

DRAWN KMT
DATE DECEMBER 2017
FILE 6390
CHECKED DCE
DRAWING A1.2



NORTH

1 MAIN FLOOR PARTIAL PLAN B
SCALE 1:100

NOTES

1. [illegible]
2. [illegible]
3. [illegible]

REVISIONS

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eema@sasktel.net

PROJECT

GORDIE HOWE SPORTS COMPLEX - PHASE 5 TRAINING CENTRE

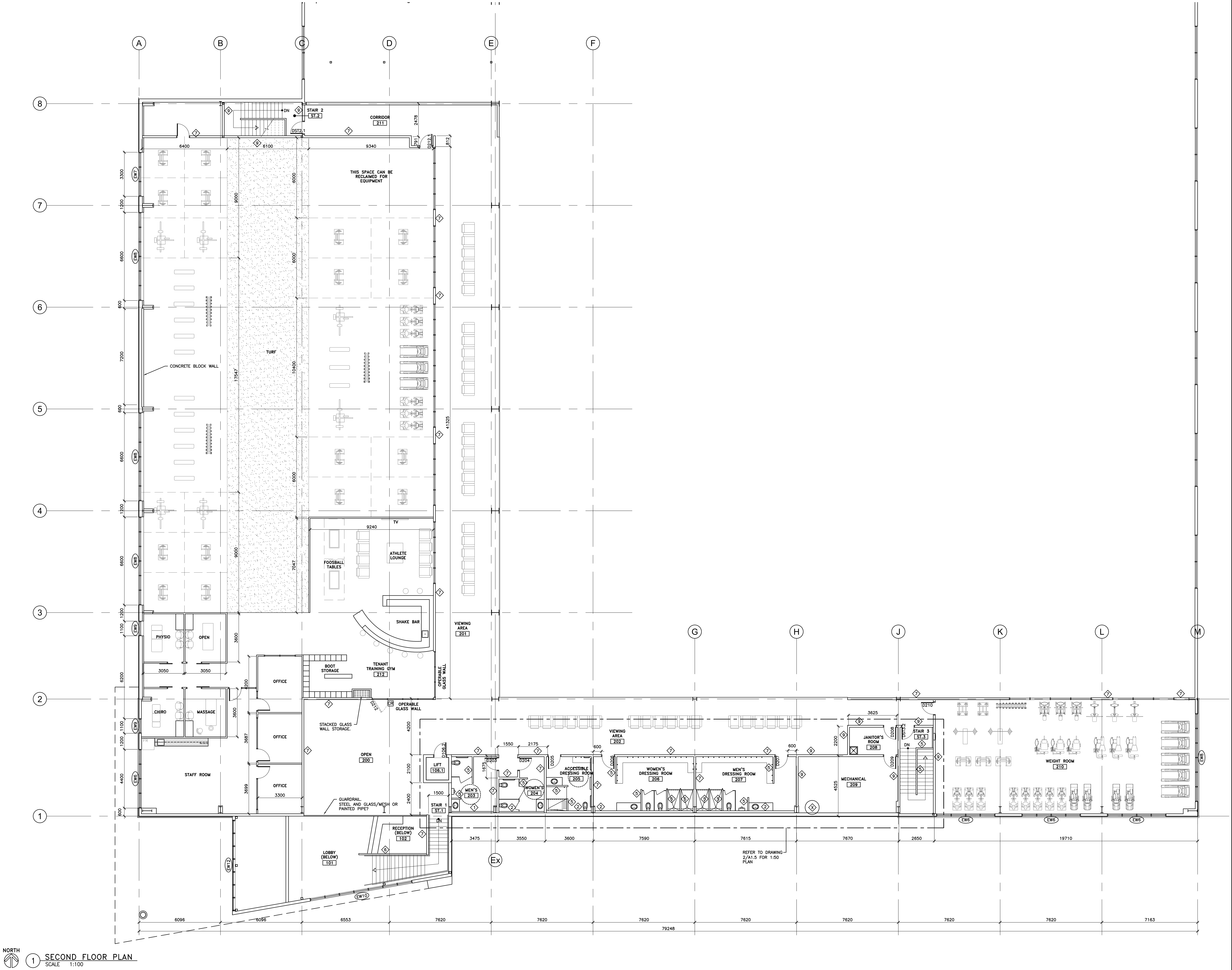
GORDIE HOWE PARK - 1525 AVE. P SOUTH
SASKATOON, SASKATCHEWAN

DRAWING NAME

MAIN FLOOR
PARTIAL PLAN B

DRAWN KMT
DATE DECEMBER 2017
FILE 6390
CHECKED DCE

DRAWING
A1.3



NORTH

1 SECOND FLOOR PLAN
SCALE 1:100

NOTES:

1. D[illegible]s.
2. A[illegible]d [illegible] by [illegible] C[illegible]r. R[illegible] C[illegible]d[illegible].
3. T[illegible]s dr[illegible] S[illegible] C[illegible]d [illegible]. C[illegible]yr[illegible]d.

REVISIONS

No.	DESCRIPTION	DATE
0	ISSUED FOR PRE ENG BUILDING	OCT 10, 2017
1	ISSUED FOR REVIEW	DEC 22, 2017

PRELIMINARY
NOT FOR CONSTRUCTION

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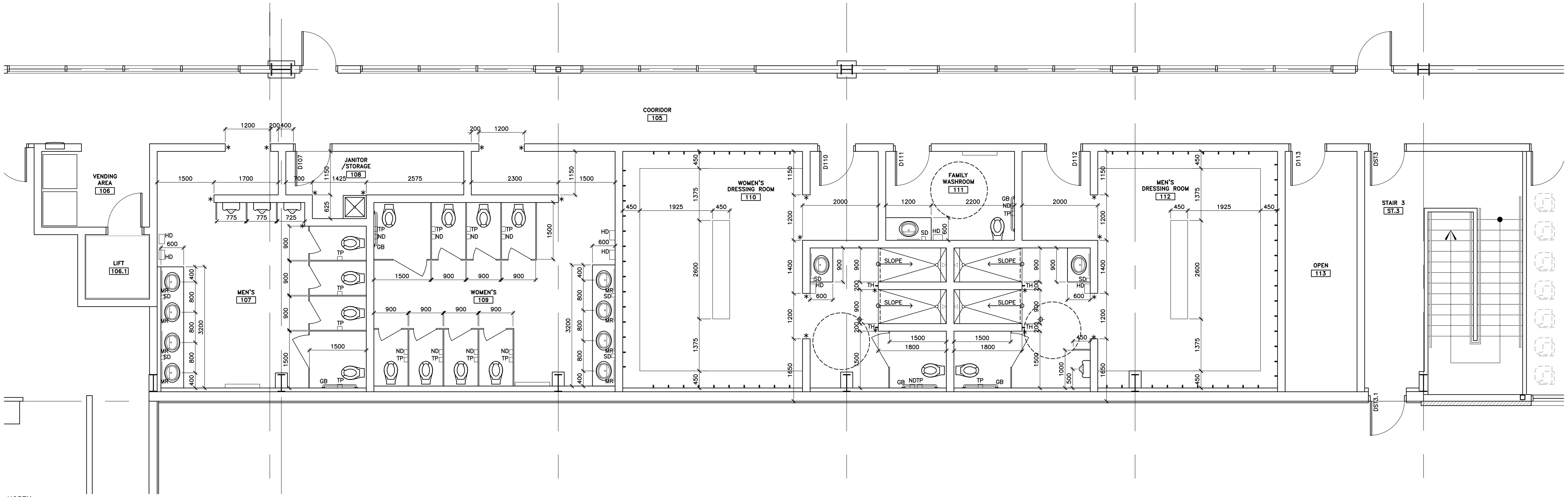
PROJECT
GORDIE HOWE SPORTS COMPLEX - PHASE 5 TRAINING CENTRE
GORDIE HOWE PARK - 1525 AVE. P SOUTH
SASKATOON, SASKATCHEWAN

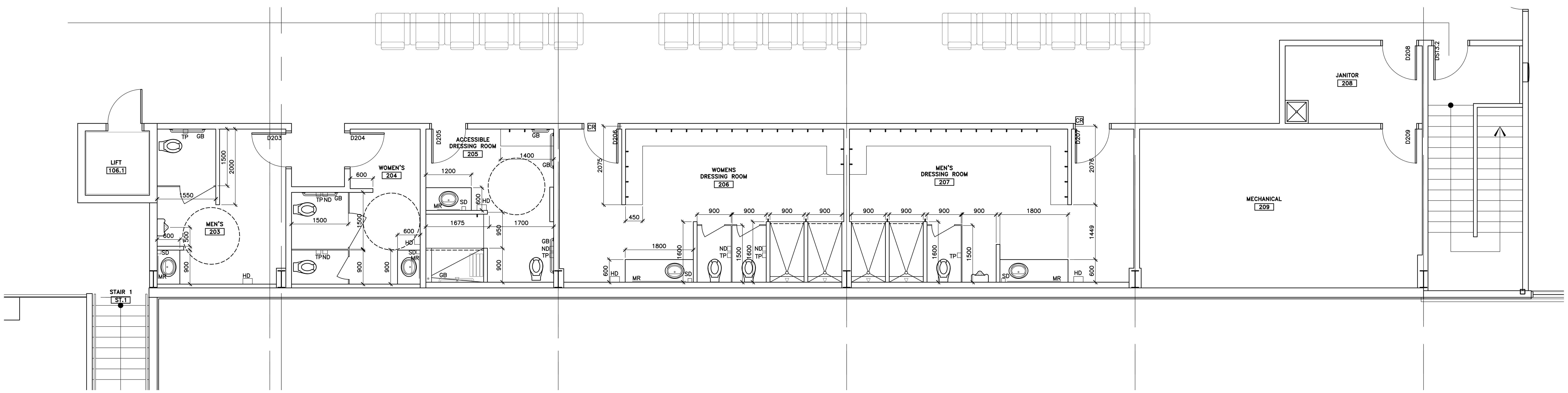
DRAWING NAME
SECOND FLOOR PLAN

DRAWN KMT
DATE DECEMBER 2017
FILE 6390
CHECKED DCE
DRAWING A1.4



NORTH

1 PARTIAL MAIN FLOOR – ENLARGED PLAN
SCALE 1:50



NORTH

2 PARTIAL SECOND FLOOR – ENLARGED PLAN
SCALE 1:50

LEGEND

BCT – BABY CHANGE TABLE
GB – GRAB BAR
HD – HAND DRYER
MR – MIRROR
ND – SANITARY NAPKIN DISPOSAL
NV – SANITARY NAPKIN VENDOR
SB – SHOWER BENCH
SD – SOAP DISPENSER
TH – TOWEL HOOK
TP – TOILET PAPER DISPENSER

NOTES:

1. [illegible]
2. [illegible]
3. [illegible]

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PROJECT

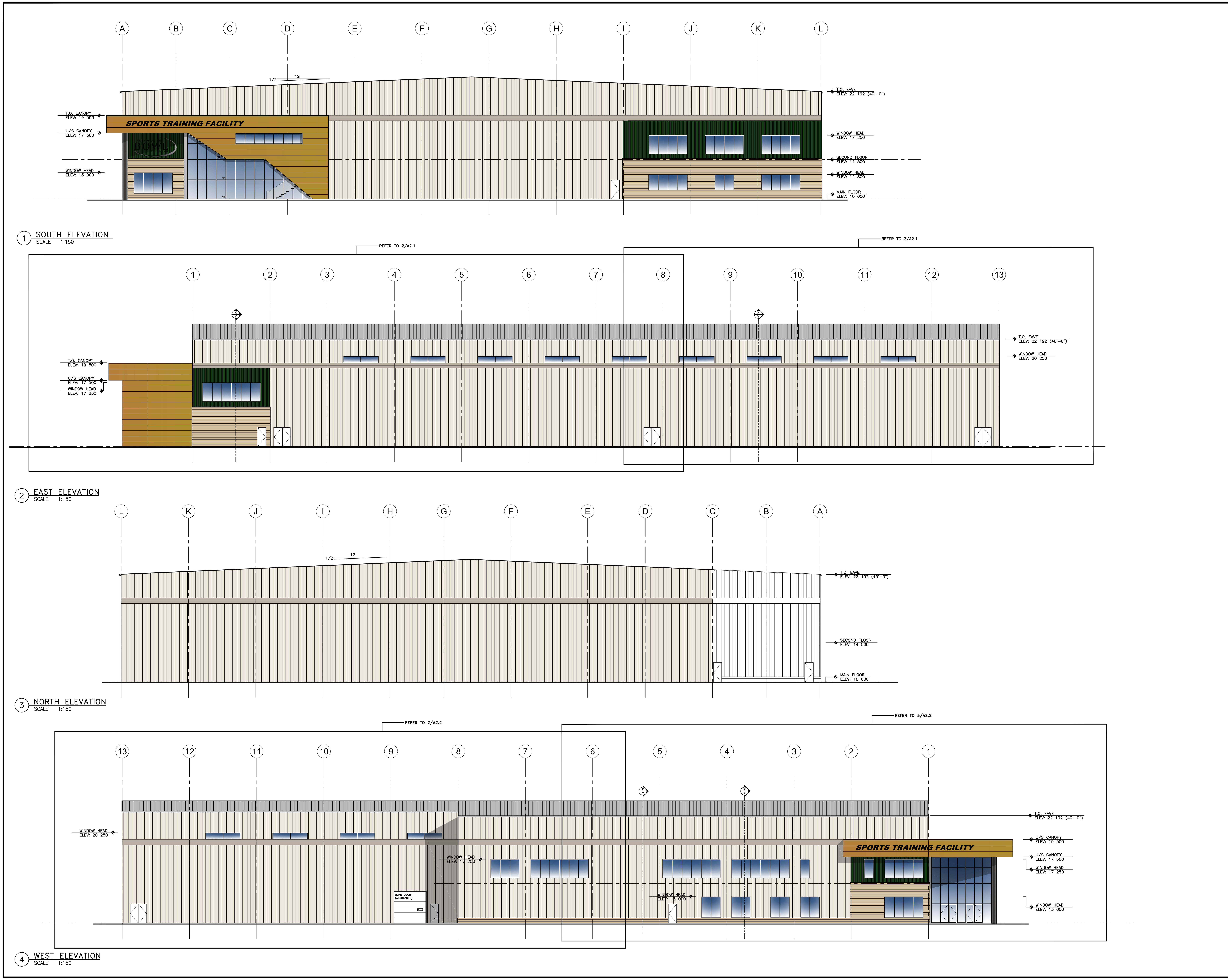
GORDIE HOWE SPORTS COMPLEX - PHASE 5 TRAINING CENTRE

GORDIE HOWE PARK - 1525 AVE. P SOUTH
SASKATOON, SASKATCHEWAN

DRAWING NAME

MAIN FLOOR
PARTIAL PLAN A

DRAWN KMT
DATE DECEMBER 2017
FILE 6390
CHECKED DCE
DRAWING A1.5



1 SOUTH ELEVATION
SCALE 1:150

2 EAST ELEVATION
SCALE 1:150

3 NORTH ELEVATION
SCALE 1:150

4 WEST ELEVATION
SCALE 1:150

NOTES:

1. [illegible]
2. [illegible]
3. [illegible]

REVISIONS

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PROJECT

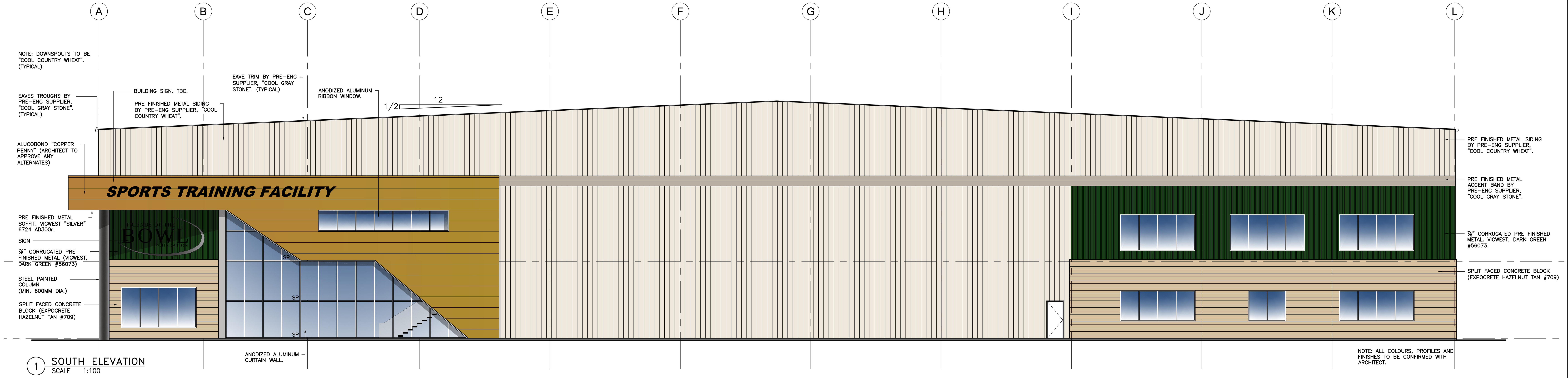
GORDIE HOWE SPORTS COMPLEX - PHASE 5 TRAINING CENTRE

GORDIE HOWE PARK - 1525 AVE. P SOUTH
SASKATOON, SASKATCHEWAN

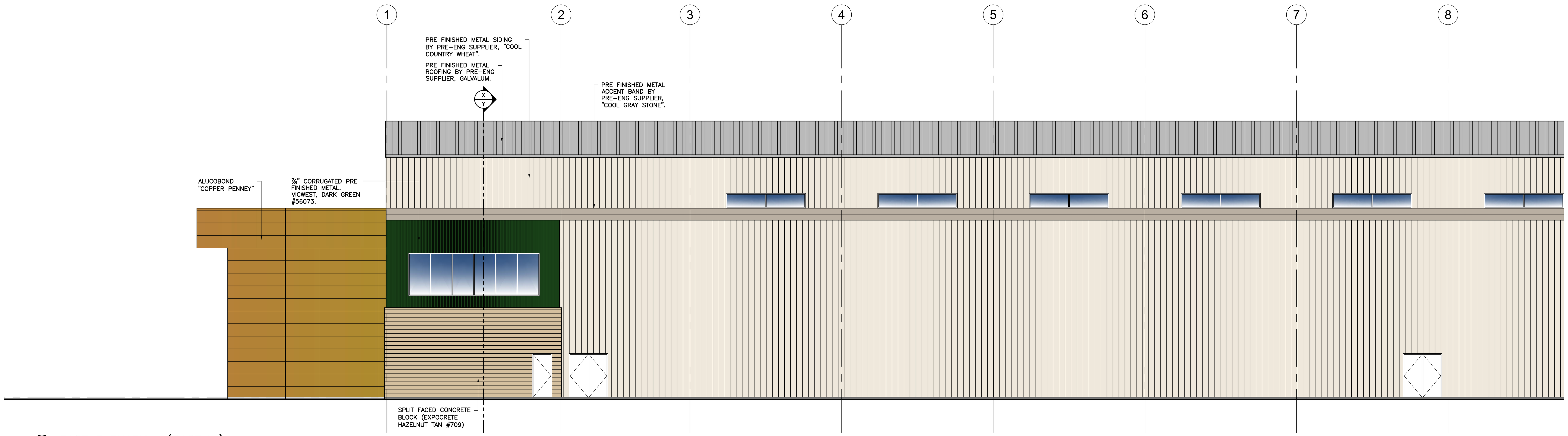
DRAWING NAME

ELEVATIONS

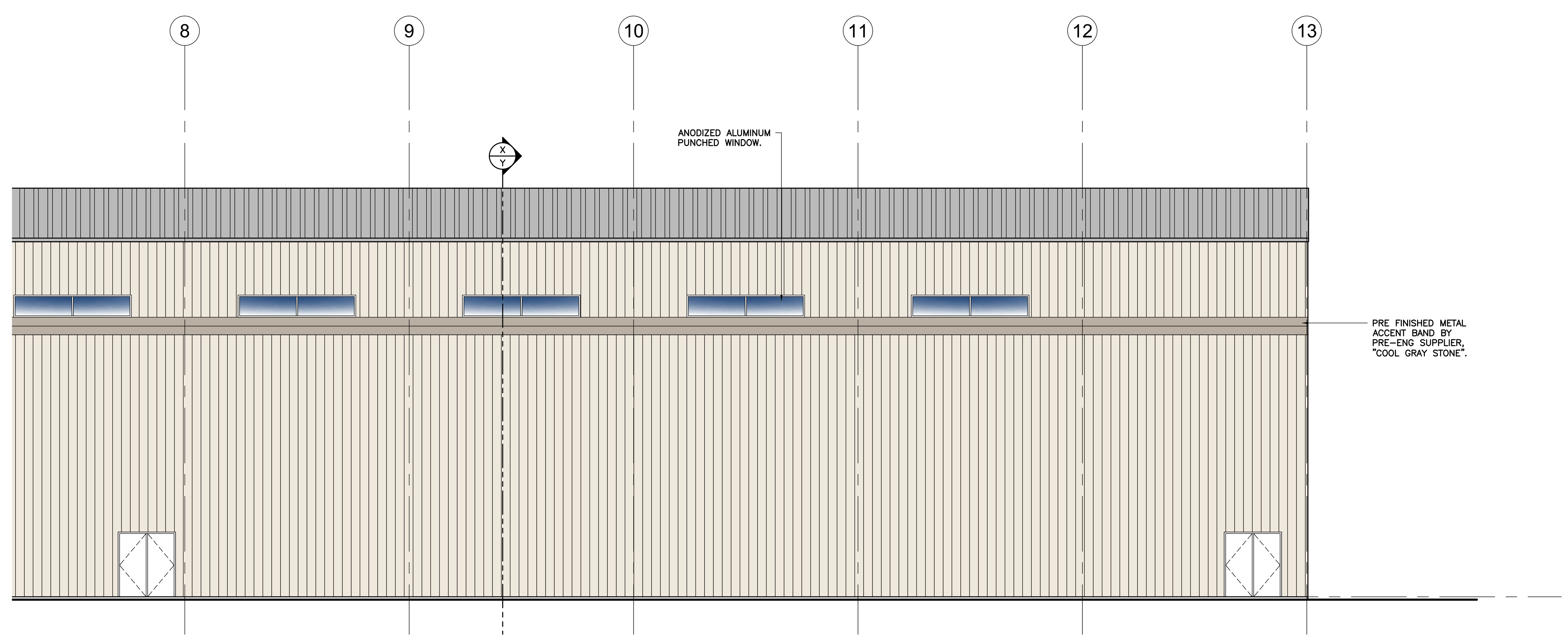
DRAWN KMT
DATE DECEMBER 2017
FILE 6390
CHECKED DCE
DRAWING A2.0



1 SOUTH ELEVATION
SCALE 1:100



2 EAST ELEVATION (PARTIAL)
SCALE 1:100



3 EAST ELEVATION (PARTIAL)
SCALE 1:100

NOTES:

1. [illegible]
2. [illegible]
3. [illegible]

REVISIONS

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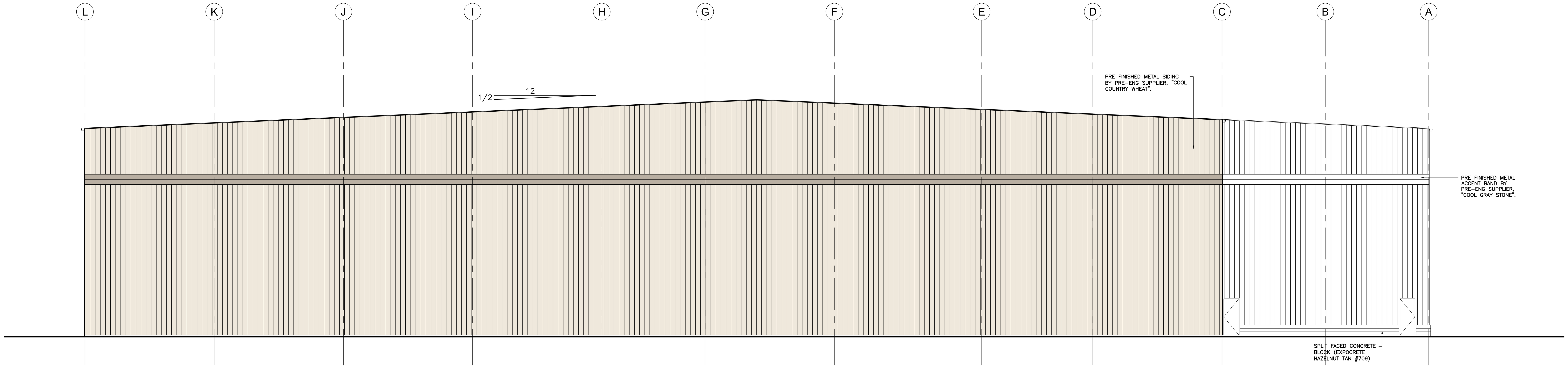
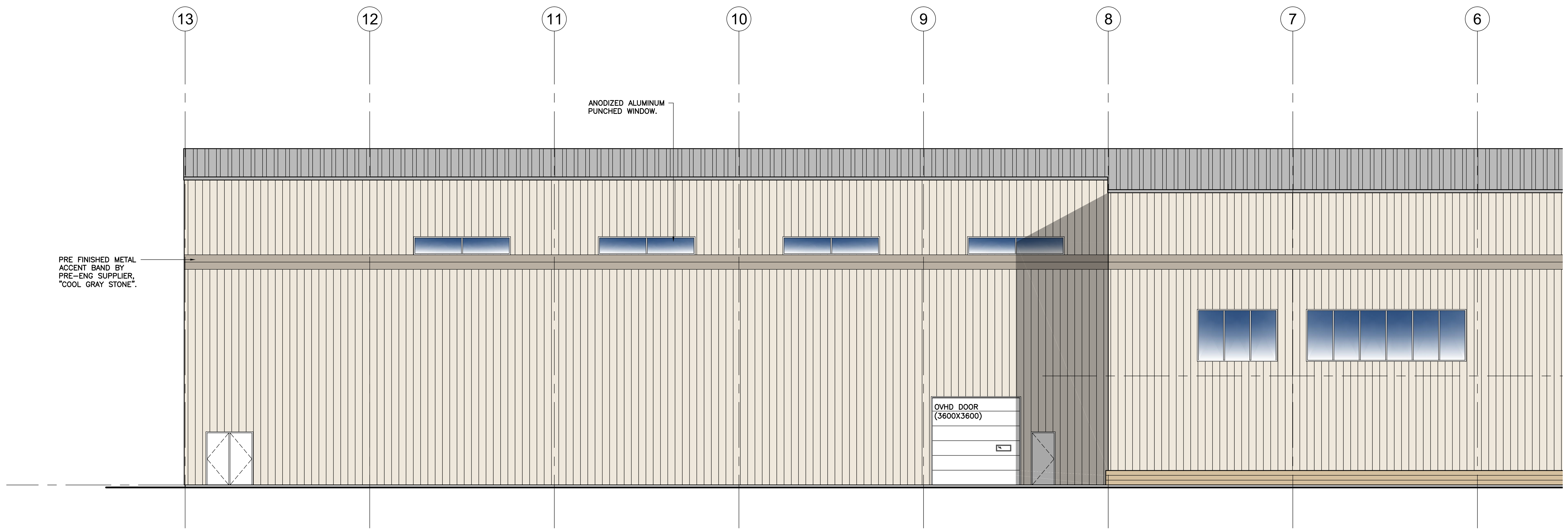
PROJECT
GORDIE HOWE SPORTS COMPLEX - PHASE 5 TRAINING CENTRE
GORDIE HOWE PARK - 1525 AVE. P SOUTH
SASKATOON, SASKATCHEWAN

DRAWING NAME
ELEVATIONS

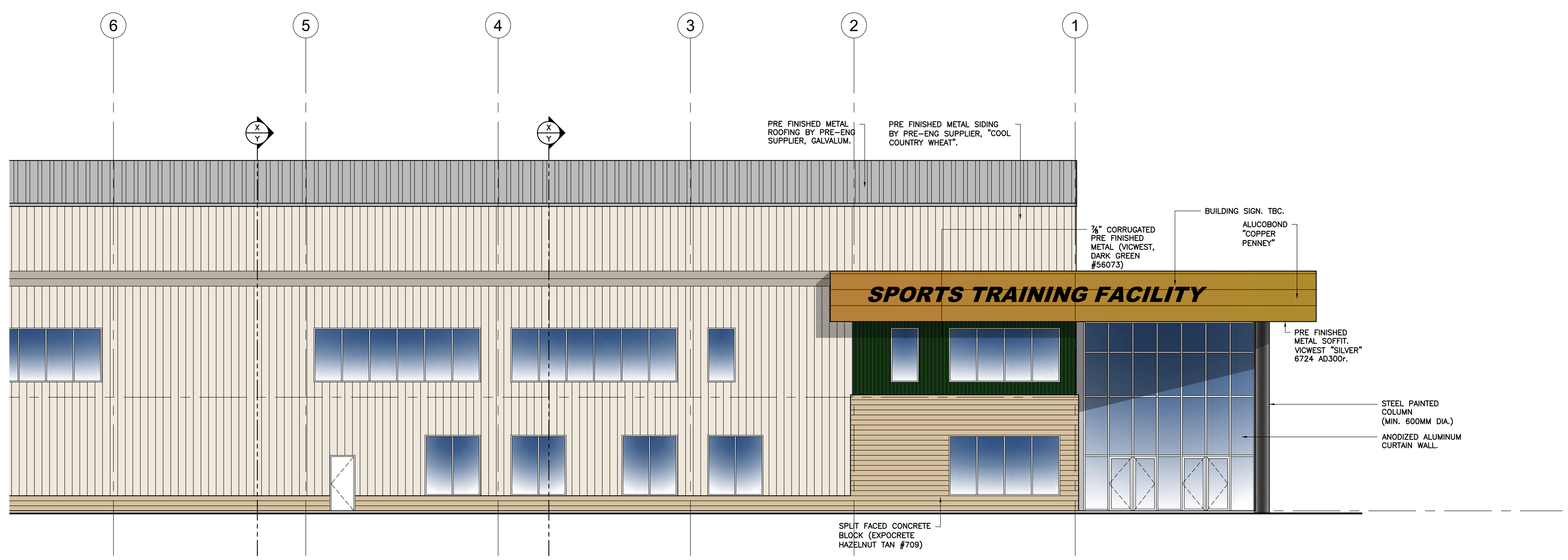
DRAWN KMT
DATE DECEMBER 2017
FILE 6390
CHECKED DCE
DRAWING A2.1



1 NORTH ELEVATION
SCALE 1:100



2 WEST ELEVATION (PARTIAL)
SCALE 1:100



3 WEST ELEVATION (PARTIAL)
SCALE 1:100

NOTES:

1. [illegible]
2. [illegible]
3. [illegible]

REVISIONS

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PROJECT
GORDIE HOWE SPORTS COMPLEX - PHASE 5 TRAINING CENTRE
GORDIE HOWE PARK - 1525 AVE. P SOUTH
SASKATOON, SASKATCHEWAN

DRAWING NAME
ELEVATIONS

DRAWN KMT
DATE DECEMBER 2017
FILE 6390
CHECKED DCE
DRAWING A2.2

Bob Van Impe Stadium

Saskatoon,SK

Lighting System

Pole / Fixture Summary

Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Group
A1-A2	70'	70'	3	TLC-LED-1150	3.45 kW	A
B1-B2	70'	20'	2	TLC-BT-675	1.35 kW	A
		70'	6	TLC-LED-1150	6.90 kW	A
C1-C2	60'	15'	1	TLC-BT-675	0.68 kW	A
		60'	3	TLC-LED-1150	3.45 kW	A
6			*30*		*31.65 kW*	

Group Summary

Group	Description	Avg Load	Max Load	Fixture Qty
A	Baseball	31.65 kW	31.65 kW	30

Fixture Type Summary

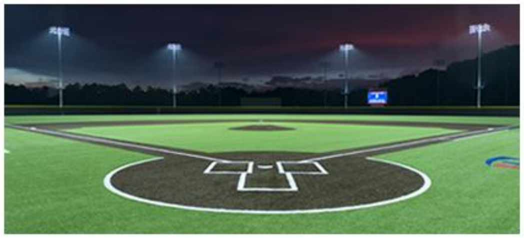
Type	Source	Wattage	Lumens	L90	L80	L70	Quantity
TLC-LED-1150	LED 5700K - 75 CRI	1150W	121,000	>51,000	>51,000	>51,000	24
TLC-BT-675	LED 5700K - 75 CRI	675W	48,000	>51,000	>51,000	>51,000	6

Light Level Summary

Calculation Grid Summary

Grid Name	Calculation Metric	Illumination				Groups	Fixture Qty
		Ave	Min	Max	Max/Min		
Baseball (Infield)	Horizontal Illuminance	50.3	36	60	1.66	A	30
Baseball (Outfield)	Horizontal Illuminance	30.5	24	40	1.68	A	30

From Hometown to Professional



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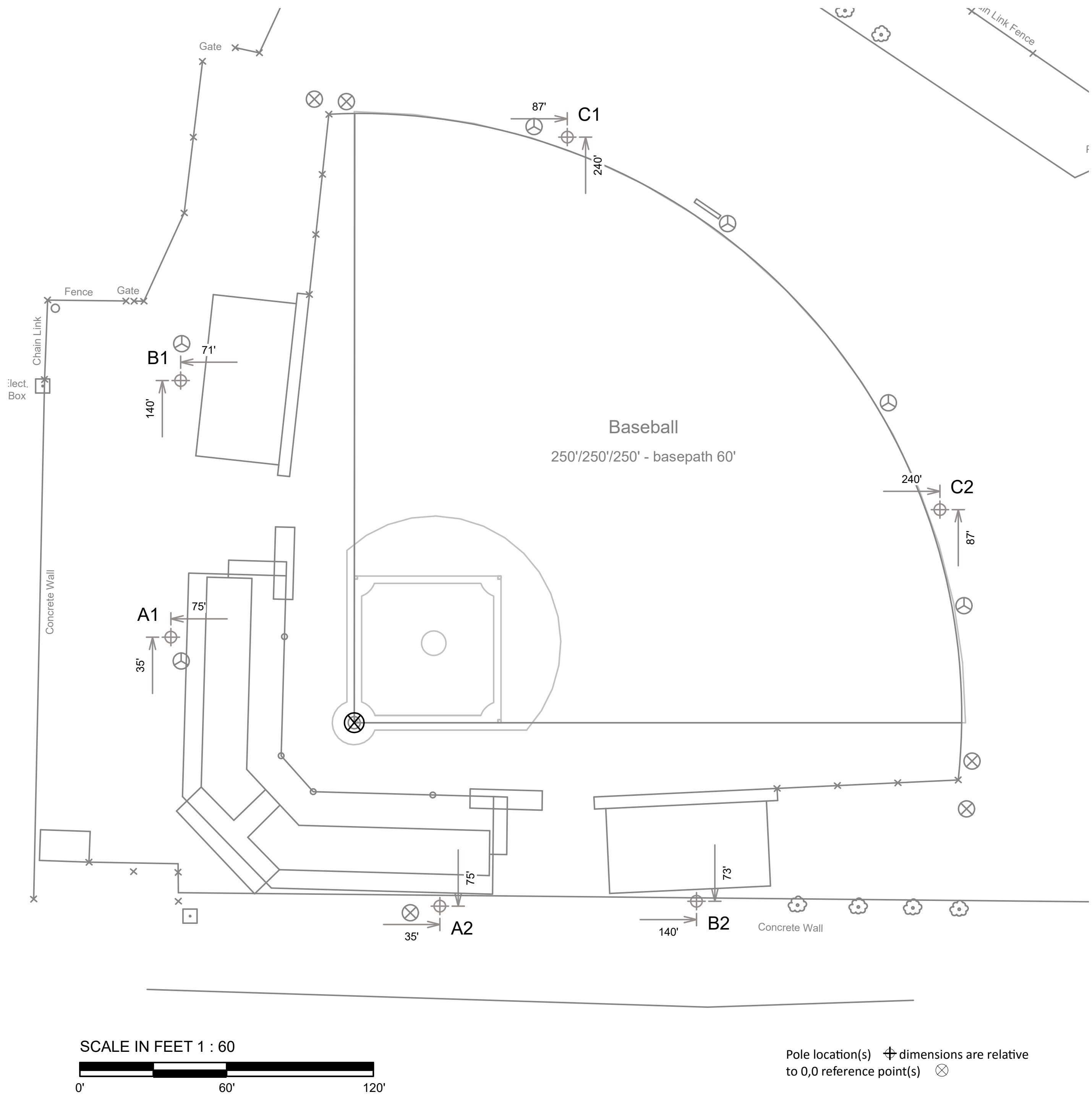
Bob Van Impe Stadium

Saskatoon,SK



EQUIPMENT LAYOUT

INCLUDES:

· Baseball

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires		
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE
2	A1-A2	70'	-	70'	TLC-LED-1150	3
2	B1-B2	70'	-	20'	TLC-BT-675	2
				70'	TLC-LED-1150	6
2	C1-C2	60'	-	15'	TLC-BT-675	1
				60'	TLC-LED-1150	3
6	TOTALS					30

SINGLE LUMINAIRE AMPERAGE DRAW CHART

Ballast Specifications (.90 min power factor)	Line Amperage Per Luminaire (max draw)						
Single Phase Voltage	208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	380 (60)	480 (60)
TLC-LED-1150	7.0	6.6	6.1	5.2	4.2	3.8	3.0
TLC-BT-675	4.0	3.8	3.5	3.0	2.4	2.2	1.8

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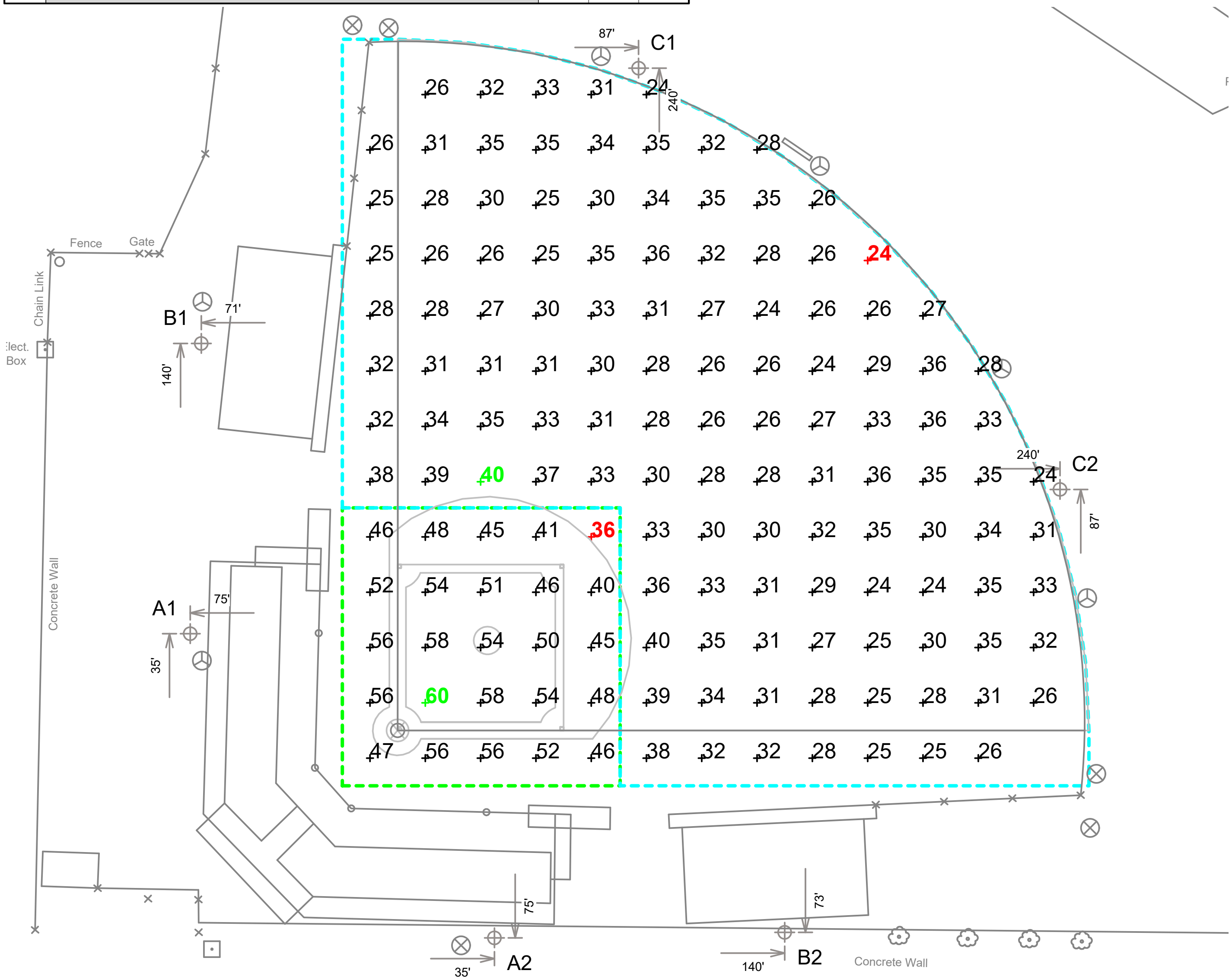
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	A1-A2	70'	-	70'	TLC-LED-1150	3	3	0
2	B1-B2	70'	-	20'	TLC-BT-675	2	2	0
				70'	TLC-LED-1150	6	6	0
2	C1-C2	60'	-	15'	TLC-BT-675	1	1	0
				60'	TLC-LED-1150	3	3	0
6	TOTALS					30	30	0



SCALE IN FEET 1 : 60

0' 60' 120'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

ENGINEERED DESIGN By: Nour Kerolos • File #188935A • 26-Sep-17

Bob Van Impe Stadium

Saskatoon,SK

GRID SUMMARY

Name:	**Baseball**
Size:	250'/250'/250' - basepath 60'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	50.28	30.45
Maximum:	60	40
Minimum:	36	24
Avg / Min:	1.40	1.29
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.66	1.68
UG (adjacent pts):	1.21	1.45
CU:	0.64	
No. of Points:	25	119

LUMINAIRE INFORMATION

Color / CRI:	5700K - 75 CRI
Luminaire Output:	121,000 / 48,000 lumens
No. of Luminaires:	**30**
Total Load:	31.65 kW

Lumen Maintenance

Luminaire Type	L90 hrs	L80 hrs	L70 hrs
TLC-LED-1150	>51,000	>51,000	>51,000
TLC-BT-675	>51,000	>51,000	>51,000

Reported per TM-21-11. See luminaire datasheet for details.

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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SCALE IN FEET 1 : 60

0' 60' 120'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

MY PROJECT

Name: Geoff Hughes PeeWee Baseball
Location: Saskatoon,SK

EQUIPMENT LAYOUT

INCLUDES:
- Baseball

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume +/- 3% nominal voltage at line side of the ballast and structures located within 3 feet (1m) of design locations.

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires		
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LAMP TYPE	QTY / POLE
1	A1	70'	-	15'	LED 5700K - 75 CRI	1
				70'	LED 5700K - 75 CRI	3
1	A2	70'	-	15'	LED 5700K - 75 CRI	1
				70'	LED 5700K - 75 CRI	3/4*
2	B1-B2	60'	-	15'	LED 5700K - 75 CRI	1
				60'	LED 5700K - 75 CRI	5
1	C1	60'	-	15'	LED 5700K - 75 CRI	3
				60'	LED 5700K - 75 CRI	4
5	TOTALS					31

* This structure utilizes a back-to-back mounting configuration

SINGLE LUMINAIRE AMPERAGE DRAW CHART

Ballast Specifications (.90 min power factor)	Line Amperage Per Luminaire (max draw)						
Single Phase Voltage	208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	380 (60)	480 (60)
TLC-LED-1150	6.8	6.5	5.9	5.1	4.1	3.7	3.0
TLC-BT-675	4.0	3.8	3.5	3.0	2.4	2.2	1.8

ENGINEERED DESIGN

By: W.Svarverud
File # / Date: 188982A 01-Nov-17

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Pole / Fixture Summary

Pole ID	Pole Height	Fixture Qty	Lamp Type	Group
A1	70'	4	LED 5700K - 75 CRI	A
A2	70'	8	LED 5700K - 75 CRI	A
B1	60'	6	LED 5700K - 75 CRI	A
B2	60'	6	LED 5700K - 75 CRI	A
C1	60'	7	LED 5700K - 75 CRI	A
5		***31***		

Calculation Grid Summary

Grid Name	Calculation Metric	Light Level				Uniformity		Groups	Fixture Qty
		Type	Ave	Min	Max	Max/Min	Ave/Min		
Baseball (Infield)	Horizontal Illuminance	Maintained	57.3	43	72	1.67	1.33	A	31
Baseball (Outfield)	Horizontal Illuminance	Maintained	31.2	21	44	2.09	1.48	A	31
Batting Cage	Horizontal	Maintained	31.1	15	49	3.34	2.11	A	31

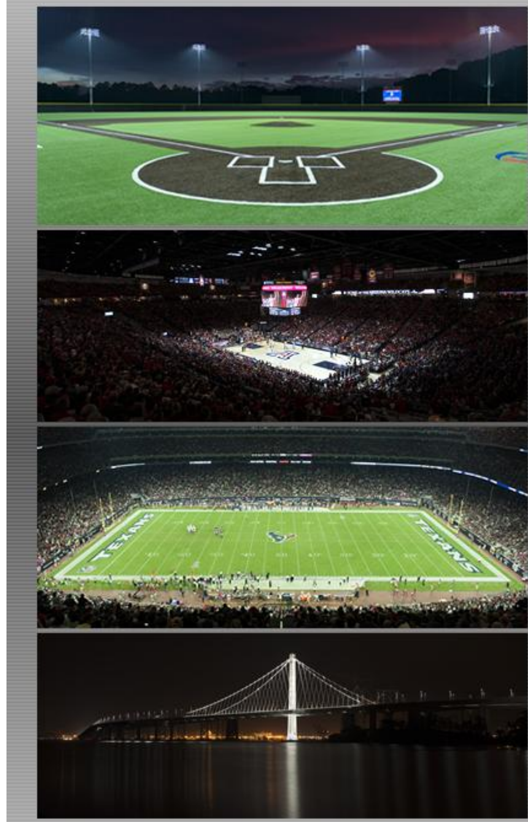
Group Summary

Group	Description	Load	Fixture Qty
A	Baseball	32.33 kW	31

MY PROJECT

Name: **Geoff Hughes PeeWee Baseball**
Location: Saskatoon,SK

From Hometown to Professional



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By: **W.Svarverud**
File # / Date: 188982A 01-Nov-17

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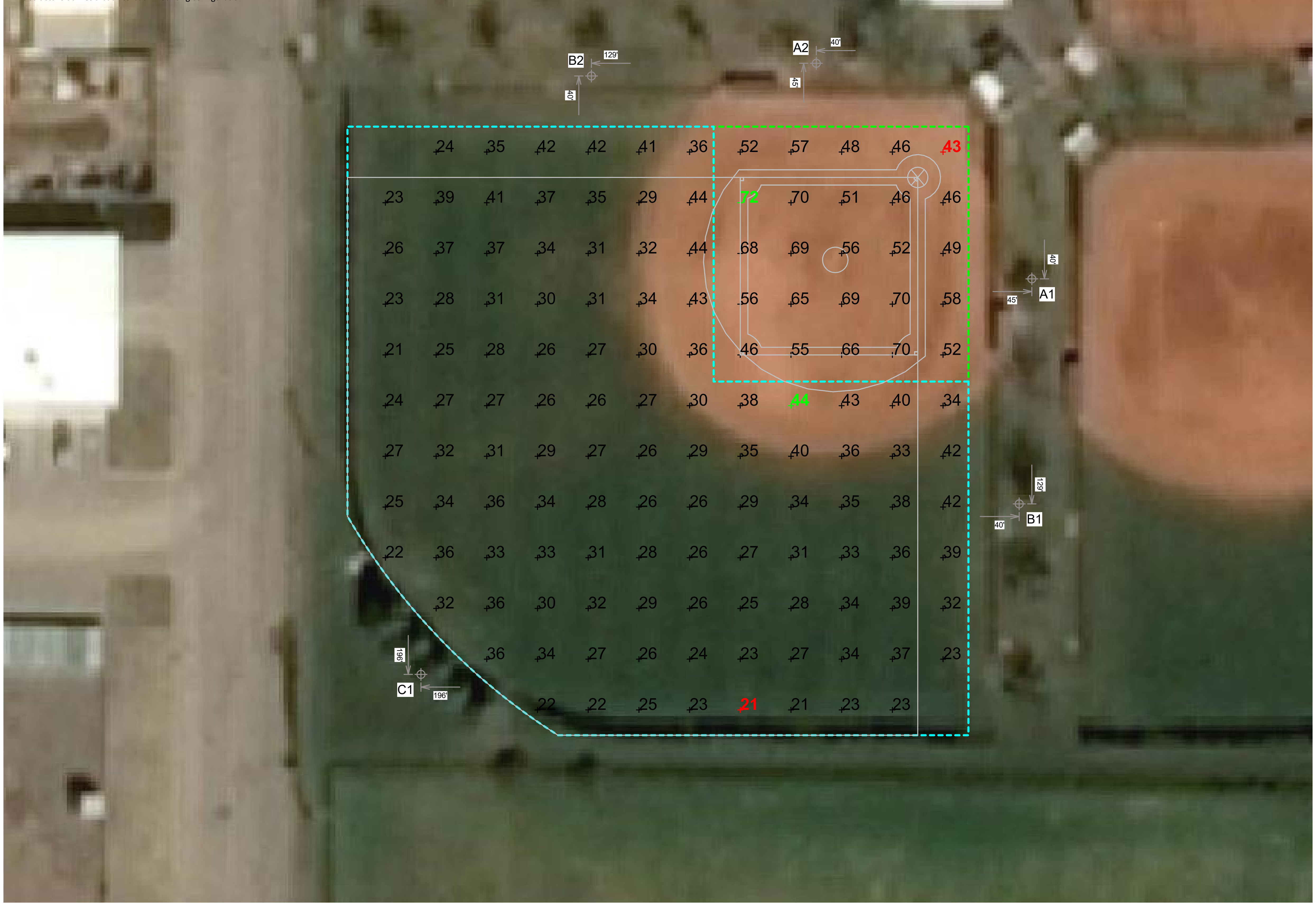
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LAMP TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A1	70'	-	15'	LED 5700K - 75 CRI	1	1	0
				70'	LED 5700K - 75 CRI	3	3	0
1	A2	70'	-	15'	LED 5700K - 75 CRI	1	1	0
				70'	LED 5700K - 75 CRI	3/4*	7	0
2	B1-B2	60'	-	15'	LED 5700K - 75 CRI	1	1	0
				60'	LED 5700K - 75 CRI	5	5	0
1	C1	60'	-	15'	LED 5700K - 75 CRI	3	3	0
				60'	LED 5700K - 75 CRI	4	4	0
5	TOTALS					31	31	0

* This structure utilizes a back-to-back mounting configuration



SCALE IN FEET 1 : 40

0' 40' 80'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

MUSCO Lighting

MY PROJECT

Name:	Geoff Hughes PeeWee Baseball
Location:	Saskatoon,SK

GRID SUMMARY

Name:	Baseball
Size:	Irregular 220' / 266' / 225'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

MAINTAINED ILLUMINATION

SUMMARY		HORIZONTAL FOOTCANDLES
	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	57.25	31.22
Maximum:	72	44
Minimum:	43	21
Avg / Min:	1.33	1.48
Max / Min:	**1.67**	**2.09**
UG (adjacent pts):	1.38	1.69
CU:	0.60	
No. of Points:	25	111

LUMINAIRE INFORMATION	
Luminaire Type:	TLC-LED-1150 / TLC-BT-675
Design Usage Hours:	10,000 / 10,000 hrs
Design Lumens:	121,000 / 48,000
Avg Tilt Factor:	1.000
Add'l Non-Rec LLF:	1.000
Recoverable LLF:	1.000
Total LLF:	1.000
No. of Luminaires:	31
Avg KW:	32.32 (32.32 max)

Field Measurements: Illumination measured in accordance with the IESNA RP-6-15 and CIBSE LG4. Individual values may vary. See the Warranty document for details.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **Musco Control System Summary** for electrical sizing.

Installation Requirements: Results assume +/- 3% nominal voltage at line side of the ballast and structures located within 3 feet (1m) of design locations.

ENGINEERED DESIGN

By:	W.Svarverud	
File # / Date:	188982A	01-Nov-17

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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LAMP TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A1	70'	-	15'	LED 5700K - 75 CRI	1	1	0
				70'	LED 5700K - 75 CRI	3	3	0
1	A2	70'	-	15'	LED 5700K - 75 CRI	1	1	0
				70'	LED 5700K - 75 CRI	3/4*	7	0
2	B1-B2	60'	-	15'	LED 5700K - 75 CRI	1	1	0
				60'	LED 5700K - 75 CRI	5	5	0
1	C1	60'	-	15'	LED 5700K - 75 CRI	3	3	0
				60'	LED 5700K - 75 CRI	4	4	0
5	TOTALS					31	31	0

* This structure utilizes a back-to-back mounting configuration

SCALE IN FEET 1 : 20

0' 20' 40'

Pole location(s) + dimensions are relative to 0,0 reference point(s) ⊗

MUSCO Lighting

MY PROJECT

Name: Geoff Hughes PeeWee Baseball
Location: Saskatoon,SK

GRID SUMMARY

Name: Batting Cage
Size: Irregular 220' / 266' / 225'
Spacing: 10.0' x 10.0'
Height: 3.0' above grade

MAINTAINED ILLUMINATION

SUMMARY	HORIZONTAL FOOTCANDLES
	Entire Grid
Guaranteed Average:	**30**
Scan Average:	31.13
Maximum:	49
Minimum:	15
Avg / Min:	2.11
Max / Min:	**3.34**
UG (adjacent pts):	1.45
CU:	0.05
No. of Points:	50
LUMINAIRE INFORMATION	
Luminaire Type:	TLC-LED-1150 / TLC-BT-675
Design Usage Hours:	10,000 / 10,000 hrs
Design Lumens:	121,000 / 48,000
Avg Tilt Factor:	1.000
Add'l Non-Rec LLF:	1.000
Recoverable LLF:	1.000
Total LLF:	1.000
No. of Luminaires:	31
Avg KW:	32.32 (32.32 max)

Field Measurements: Illumination measured in accordance with the IESNA RP-6-15 and CIBSE LG4. Individual values may vary. See the Warranty document for details.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **Musco Control System Summary** for electrical sizing.

Installation Requirements: Results assume +/- 3% nominal voltage at line side of the ballast and structures located within 3 feet (1m) of design locations.

ENGINEERED DESIGN

By: W.Svarverud
File # / Date: 188982A 01-Nov-17

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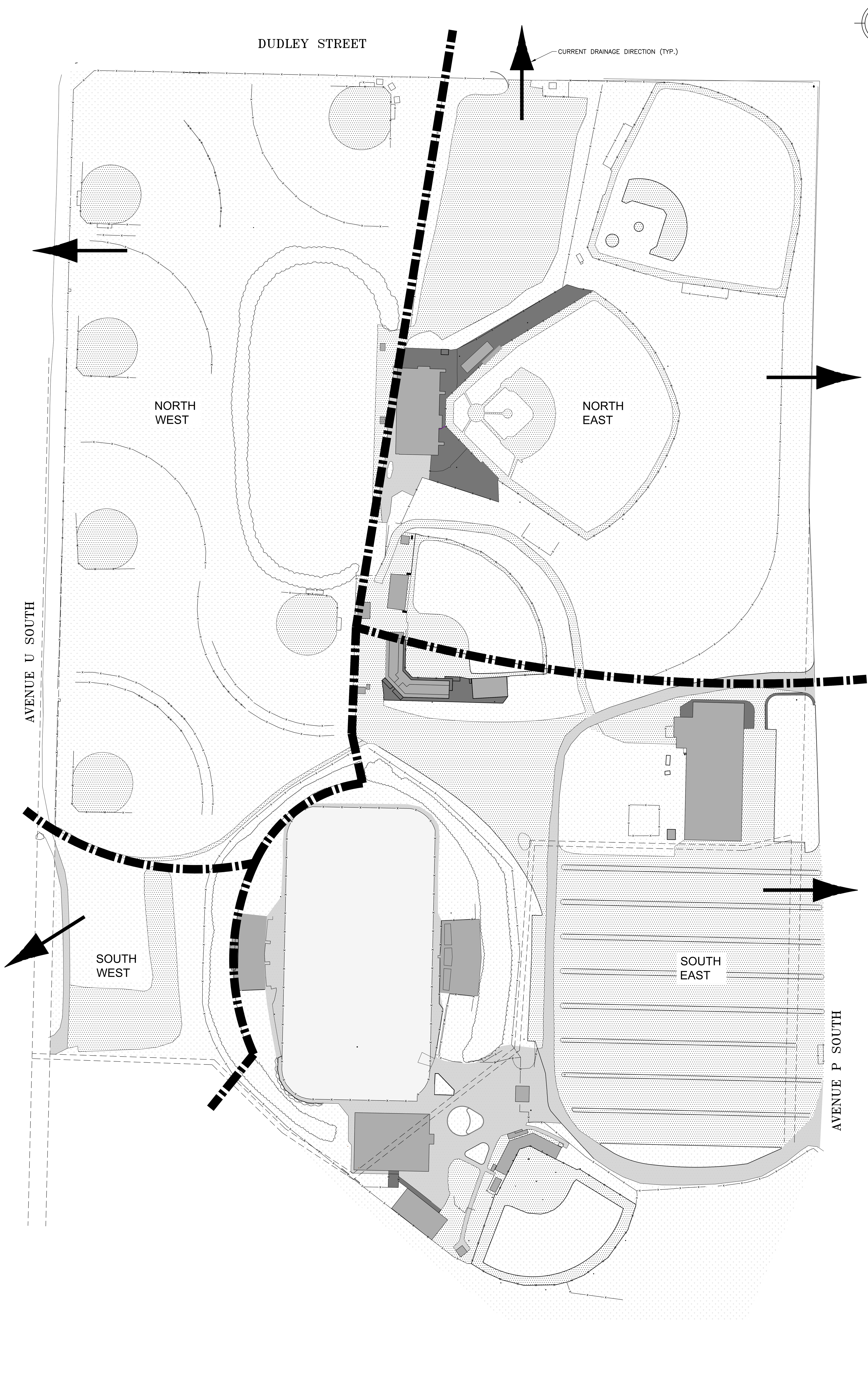
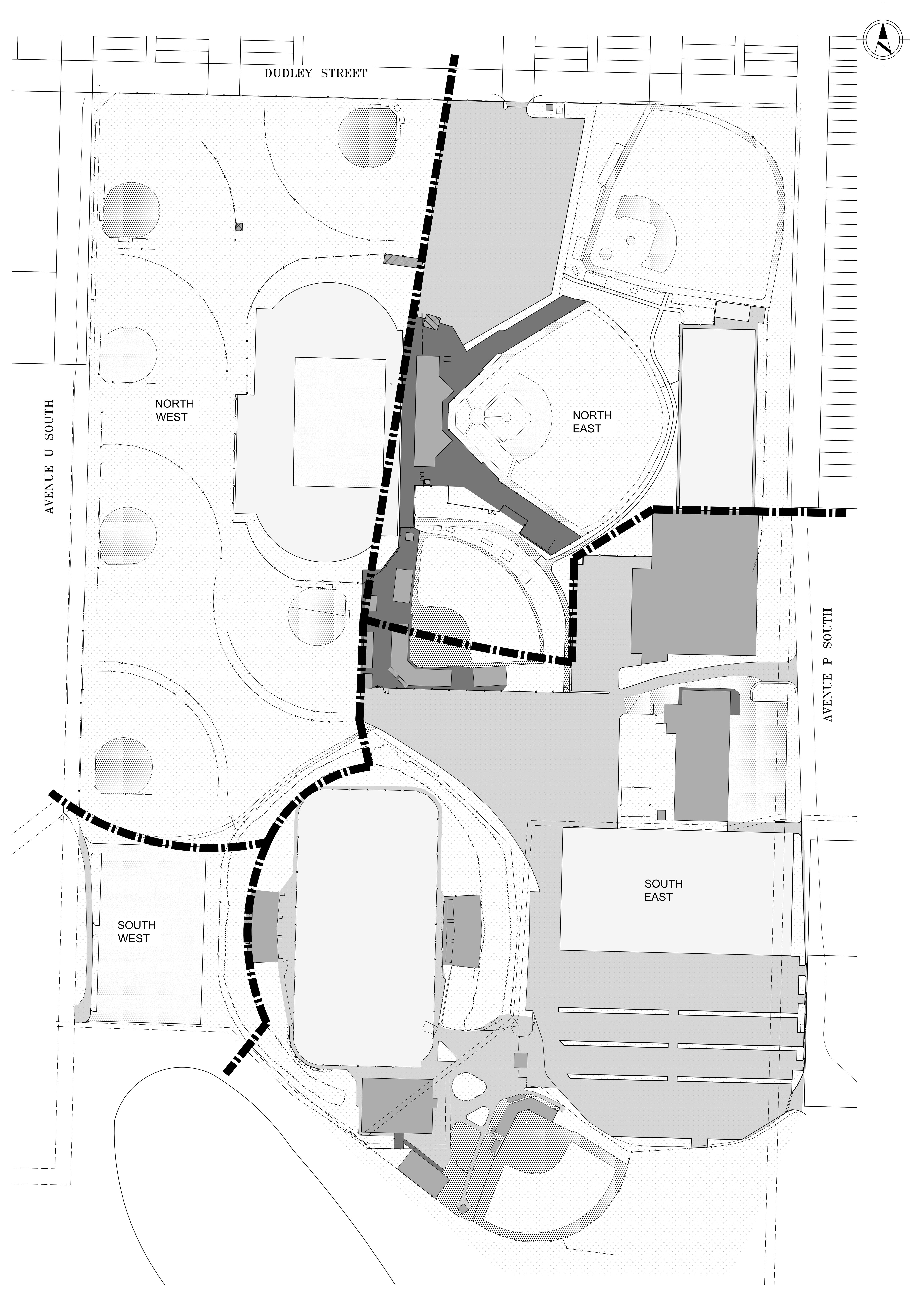
ILLUMINATION SUMMARY



PRE-DEVELOPMENT SITE PLAN
SCALE: 1:1250



POST DEVELOPMENT SITE PLAN
SCALE: 1:1250

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LEGEND:

- EASEMENT
- FENCE LINE
- BOUNDARY LINE
- ASPHALT AREA
- CONCRETE AREA
- EXIST. BUILDING AREA
- PROPOSESD BUILDING AREA
- LANDSCAPE AREA
- GRAVEL AREA
- SYNTHETIC TRACK

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PROJECT

GORDIE HOWE SPORTS COMPLEX - PHASE 5

SASKATOON, SK

DRAWING NAME

PRE VS. POST SITE PLAN

DRAWN	R.BELL	DRAWING
DATE	AUG 2017	TC-1
FILE	17-938	
CHECKED	R.ROGAL	

LEGEND:

- DRAINAGE DIRECTION & GRADE
- PERIMETER GRADE ELEVATION
- CATCH BASIN RIM ELEVATION
- EXIST. ELEVATION
- TOP OF CURB ELEVATION / TOP OF ASPHALT ELEVATION
- EDGE OF ASPHALT ELEVATION
- DESIGN ELEVATION
- CATCH BASIN / CATCH BASIN MANHOLE
- RIDGE LINE
- EXIST. FENCE LINE
- EXIST. SHRUBS
- CONCRETE
- EXIST. SIDEWALK
- BUILDINGS

SOUTH EAST *PRE-DEVELOPMENT C FACTOR		
TYPE	AREA (sq.m)	2 YR C
ASPHALT	10414	0.95
CONCRETE	923	0.95
ROOF	8317	0.95
SYNTHETIC TRACK	15304	0.95
LANDSCAPING	38842	0.10
GRAVEL	43478	0.50
TOTAL	117278	0.50

SOUTH EAST *POST-DEVELOPMENT C FACTOR		
TYPE	AREA (sq.m)	2 YR C
ASPHALT	40668	0.95
CONCRETE	1363	0.95
ROOF	15408	0.95
SYNTHETIC TRACK	26690	0.95
LANDSCAPING	38246	0.10
GRAVEL	8359	0.50
TOTAL	130734	0.67

SOUTH EAST STORM WATER RUNOFF STORAGE CALCULATIONS

NOTE:
STORAGE CALCULATIONS BASED ON COS NNDDSM
ONSITE STORAGE REQUIREMENT.

Cd= 0.50 CITY OF SASKATOON DESIGN C FACTOR
Cp= 0.67 SITE DESIGN C FACTOR
A= 869-(200*Cd)
B= 33-(1055*Cd)

REQUIRE STORAGE
VOLUME(cu.m/ha)=A*(Cp-Cd)+B(Cp-Cd)^2
VOLUME(cu.m)= 1522 cu.m.

SURFACE STORAGE PROVIDED= 1936 cu.m.
PIPE STORAGE PROVIDED= 72 cu.m.
MANHOLE STORAGE PROVIDED= 107 cu.m.
TOTAL STORAGE PROVIDED= 2091 cu.m.

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PROJECT
GORDIE HOWE SPORTS COMPLEX - PHASE 5
SASKATOON, SK

DRAWING NAME
SOUTH EAST SECTOR GRADING PLAN (NORTH HALF)

DRAWN	R. BELL	DRAWING
DATE	SEPT 2017	TC-2
FILE	17-938	
CHECKED	R. ROGAL	

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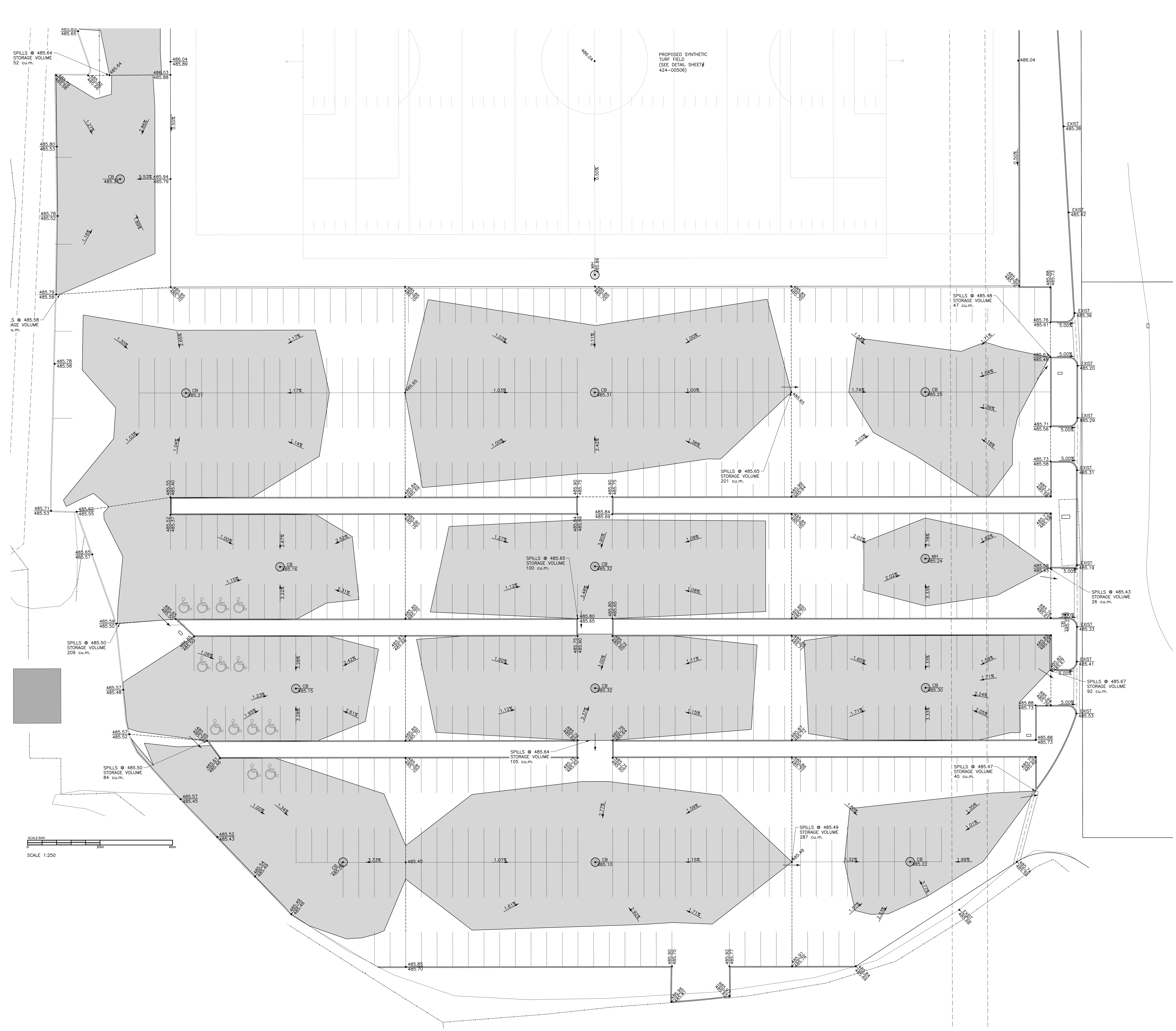

LEGEND:

X.XX%	DRAINAGE DIRECTION & GRADE
PG XXX.XX	PERIMETER GRADE ELEVATION
CB XXX.XX	CATCH BASIN RIM ELEVATION
EXIST XXX.XX	EXIST. ELEVATION
XXX.XX / XXX.XX	TOP OF CURB ELEVATION / TOP OF ASPHALT ELEVATION
• XXX.XX	DESIGN ELEVATION
	CATCH BASIN / CATCH BASIN MANHOLE
	CATCH BASIN IN CURB
	RIDGE LINE
	EXIST. FENCE LINE
	EXIST. SHRUB LINE
	EASEMENT
	EXIST. BUILDING

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PROJECT

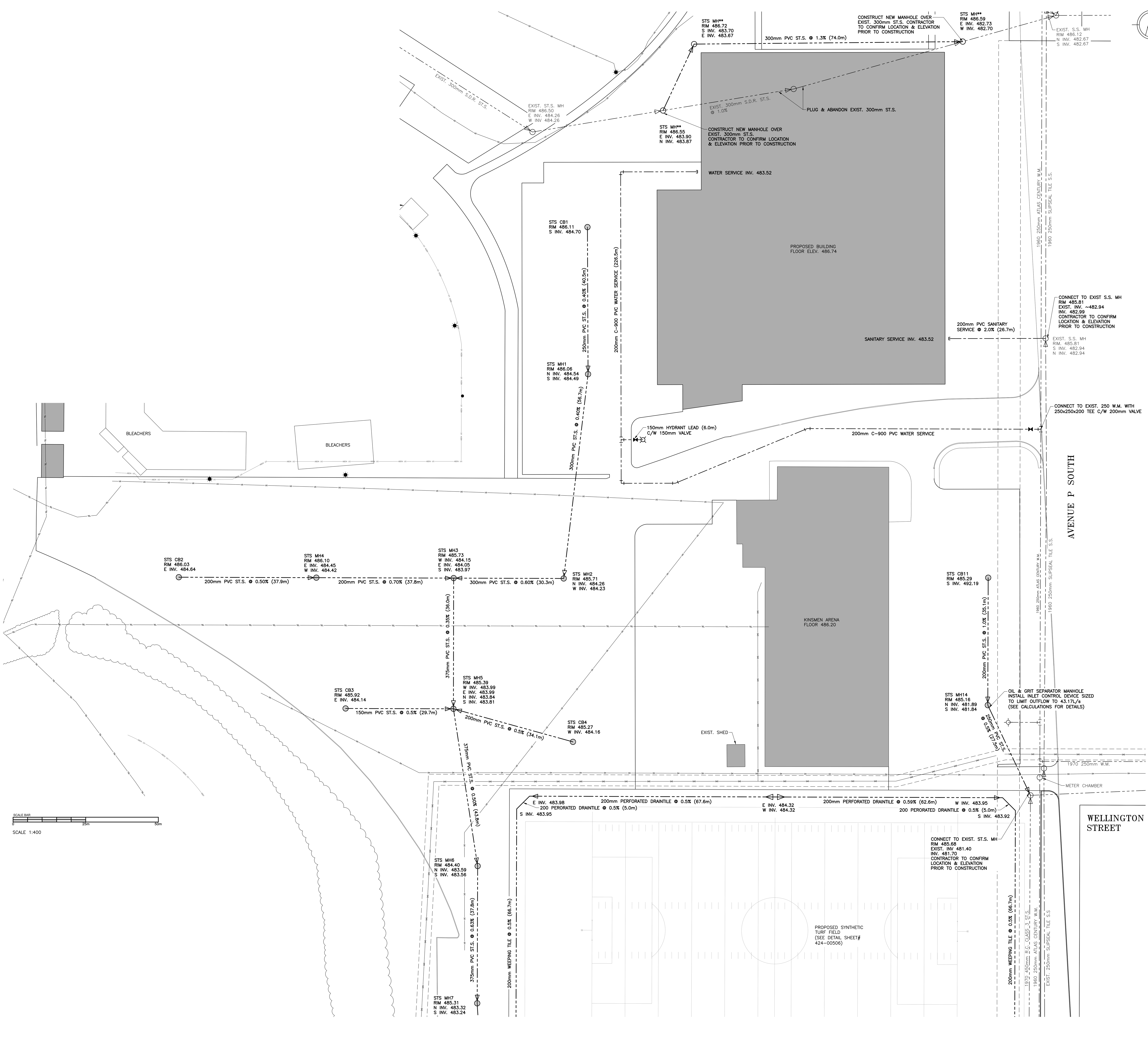
GORDIE HOWE SPORTS COMPLEX - PHASE 5

SASKATOON, SK

DRAWING NAME

SOUTH EAST SECTOR GRADING PLAN (SOUTH HALF)

DRAWN	R.BELL	DRAWING
DATE	SEPT 2017	TC-3
FILE	17-938	
CHECKED	R.ROGAL	



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LEGEND:

- EXIST. POWER POLE
- EXIST. LIGHT STANDARD
- MANHOLE
- CATCH BASIN \ CATCH BASIN MANHOLE
- EXIST. CATCH BASIN IN CURB
- FLOW DIRECTION
- EXIST. HYDRANT
- TEE
- VALVE
- EXIST. GAS LINE
- EXIST. PHONE LINE
- EXIST. UNDERGROUND POWER LINE
- EXIST. ABANDONED UNDERGROUND POWER LINE
- EASEMENT
- EXIST. FENCE
- EXIST. SHRUB LINE
- BUILDINGS

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ALLOWABLE DISCHARGE

NOTE:
STORAGE CALCULATIONS BASED ON COS NNDDSM MAXIMUM ALLOWABLE DISCHARGE RATE.

Cd= 0.6 CITY OF SASKATOON DESIGN C FACTOR

FLOW(L/s/ha)=114*Cd
FLOW(L/s)= 43.17

ORIFICE SIZE CALCULATION

Q= 0.0432 ALLOWABLE RELEASE RATE (cu.m/s)
K= 0.61 CONSTANT
A= AREA OR ORIFICE (sq.m)
g= 9.81 ACCELERATION OF GRAVITY (m/s²)
h= 3.45 HEAD (m)

Q=KA(2gh)^0.5
A= 0.009sq.m
DIAMETER= 0.105m

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PROJECT

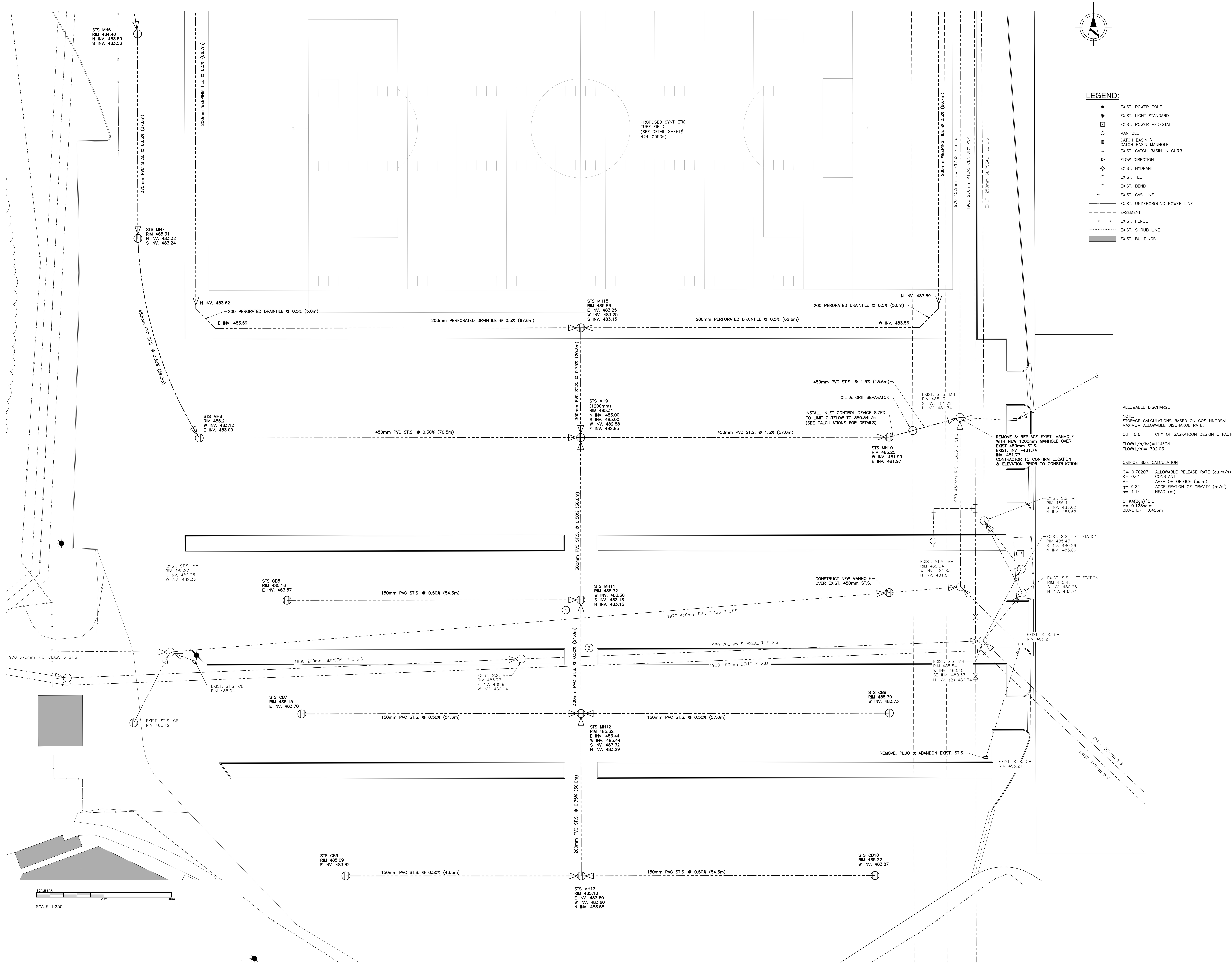
GORDIE HOWE SPORTS COMPLEX - PHASE 5

SASKATOON, SK

DRAWING NAME

SOUTH EAST SECTOR SERVICING PLAN (NORTH HALF)

DRAWN	B.BESSEL	DRAWING
DATE	SEPT 2017	TC-4
FILE	17-938	
CHECKED	R.ROGAL	



ALLOWABLE DISCHARGE

NOTE:
STORAGE CALCULATIONS BASED ON COS NNDDSM MAXIMUM ALLOWABLE DISCHARGE RATE.

Cd= 0.6 CITY OF SASKATOON DESIGN C FACTOR

FLOW(L/s/ha)=114*Cd
FLOW(L/s)= 702.03

ORIFICE SIZE CALCULATION

Q= 0.70203 ALLOWABLE RELEASE RATE (cu.m/s)
K= 0.61 CONSTANT
A= AREA OR ORIFICE (sq.m)
g= 9.81 ACCELERATION OF GRAVITY (m/s²)
h= 4.14 HEAD (m)

Q=KA(2gh)^0.5
A= 0.128sq.m
DIAMETER= 0.403m

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PROJECT

GORDIE HOWE SPORTS COMPLEX - PHASE 5

SASKATOON, SK

DRAWING NAME

SOUTH EAST SECTOR SERVICING PLAN (SOUTH HALF)

DRAWN	R.BELL	DRAWING	
DATE	SEPT 2017		TC-5
FILE	17-938		
CHECKED	R.ROGAL		

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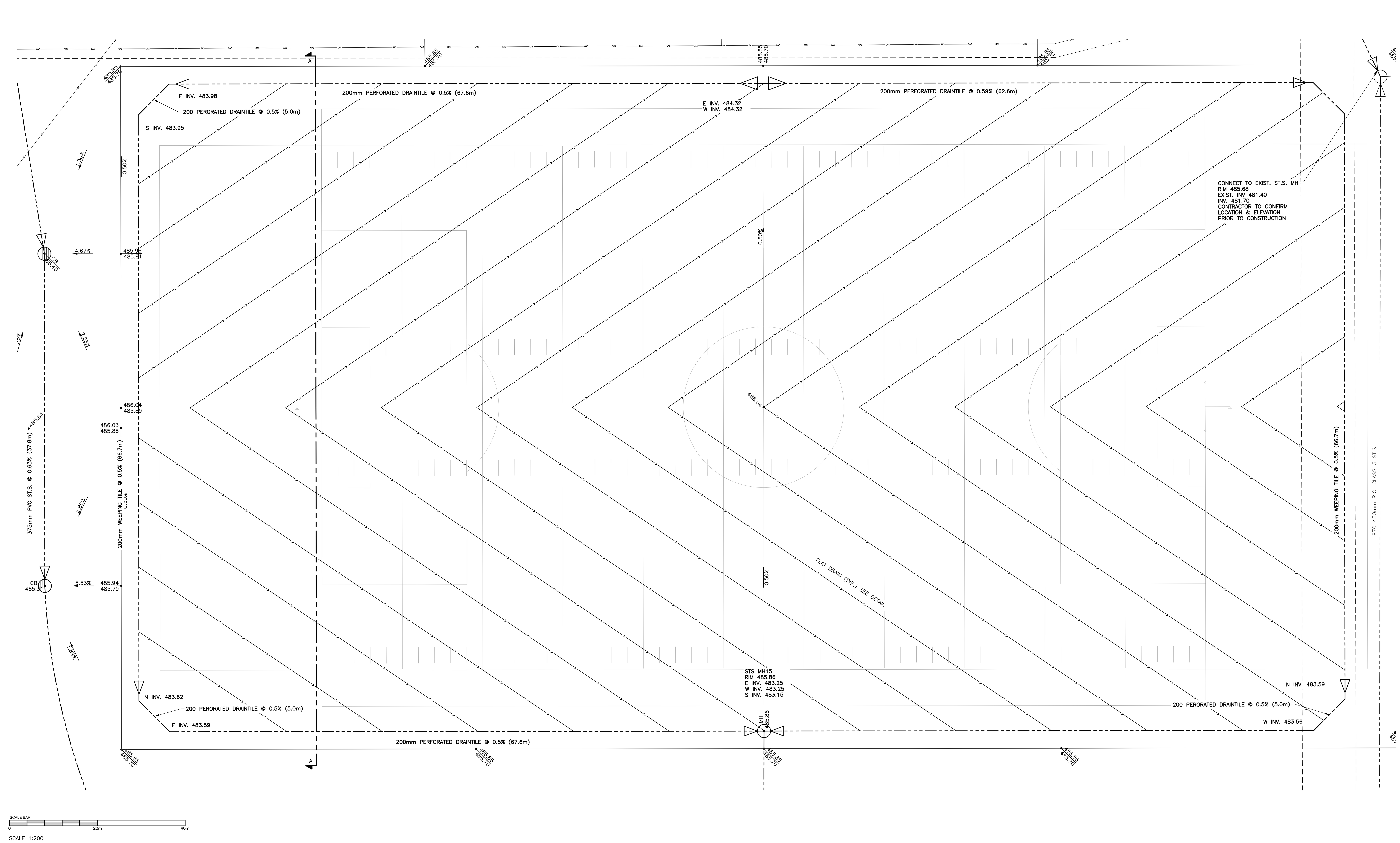
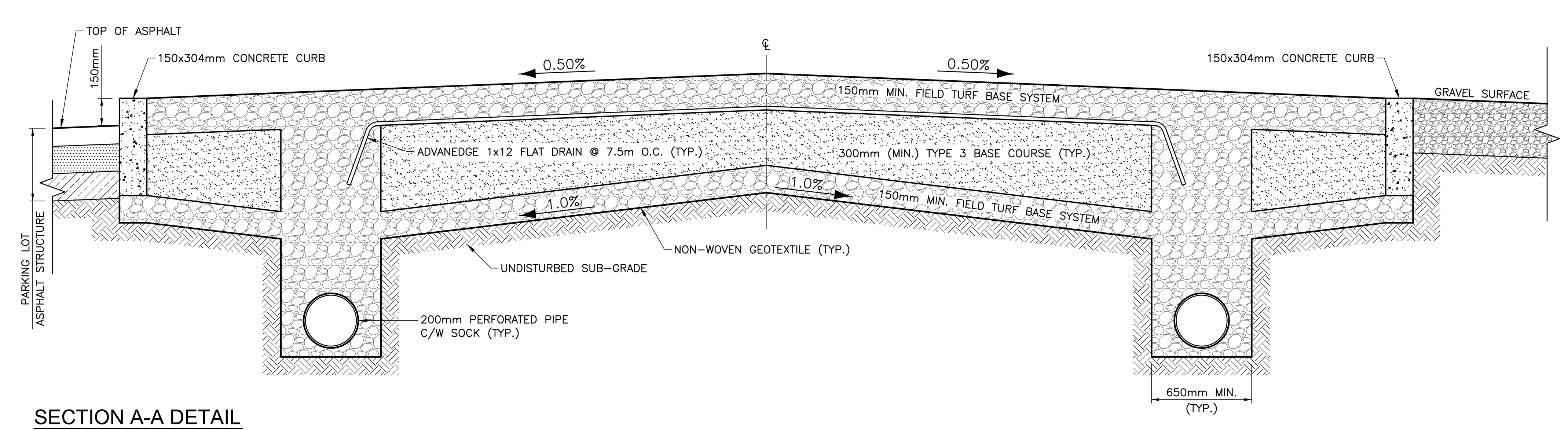


LEGEND:

- EXIST. POWER POLE
- EXIST. LIGHT STANDARD
- EXIST. POWER PEDESTAL
- MANHOLE
- CATCH BASIN / CATCH BASIN MANHOLE
- EXIST. CATCH BASIN IN CURB
- FLOW DIRECTION
- EXIST. HYDRANT
- EXIST. TEE
- EXIST. BEND
- EXIST. GAS LINE
- EXIST. UNDERGROUND POWER LINE
- EASEMENT
- EXIST. FENCE



SECTION A-A DETAIL
SCALE: N.T.S

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PROJECT

GORDIE HOWE SPORTS COMPLEX - PHASE 5

SASKATOON, SK

DRAWING NAME

SOUTH EAST SYNTHETIC TURF FIELD GRADING AND SERVICING

DRAWN	R.BELL	DRAWING
DATE	SEPT 2017	TC-6
FILE	17-938	
CHECKED	R.ROGAL	

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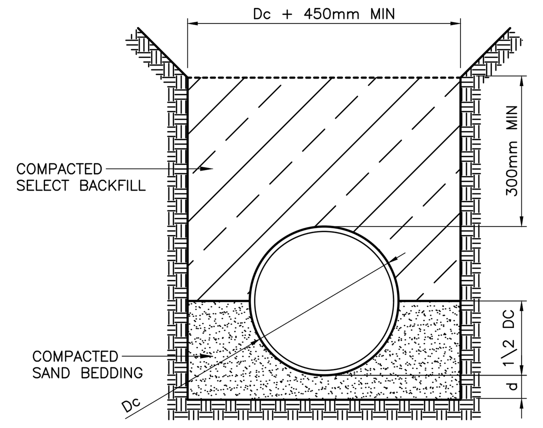
GENERAL
1. ALL CONSTRUCTION WITHIN CITY OF SASKATOON RIGHT OF WAYS TO BE COMPLETED IN ACCORDANCE WITH MUNICIPAL BYLAWS, STANDARDS & SPECIFICATIONS.
2. ALL MATERIALS ARE TO BE NEW AND CSA APPROVED.
3. CONTRACTOR IS RESPONSIBLE FOR OBTAINING LOCATES FOR ALL UTILITIES AND CONTACT UTILITY COMPANIES PRIOR TO CONSTRUCTION.
4. ALL ELEVATIONS OF EXISTING INFRASTRUCTURE ARE APPROXIMATE AND SHOULD BE CONFIRMED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY ERRORS SHOULD BE REPORTED TO THE CONSULTANT IMMEDIATELY UPON DISCOVERY.
5. WATER AND SEWER SERVICES TO BE EXTENDED TO WITHIN 1.0M OF THE BUILDING. EXTENSION TO INSIDE BUILDING SHALL BE COMPLETED BY MECHANICAL CONTRACTOR IN ACCORDANCE WITH PLUMBING SPECIFICATIONS AND CODES AND AS DETAILED ON MECHANICAL DRAWINGS.

TRENCH EXCAVATION
1. REMOVE TOPSOIL FROM LINES OF TRENCHES PRIOR TO CONSTRUCTION.
2. EXCAVATE SUFFICIENTLY TO ALLOW FOR THE INSTALLATION OF PIPES, FITTINGS AND APPURTENANCES TO THE LINES, GRADES AND ELEVATIONS AS SHOWN ON THE DRAWINGS OR ESTABLISHED BY THE CONSULTANT IN THE FIELD. PIPES SHALL REST ON APPROVED COMPACTED GRANULAR MATERIAL (CLASS B BEDDING). OVER-EXCAVATION SHALL BE BROUGHT UP TO GRADE USING COMPACTED GRANULAR MATERIAL AT THE EXPENSE OF THE CONTRACTOR. TOPSOIL, BUSH AND GRAVEL SHALL BE REMOVED PRIOR TO TRENCHING AND STOCKPILED FOR FUTURE USE OR DISPOSED OF.
3. OBEY LAWS, RULES AND ORDINANCES RESPECTING EXCAVATION. TRENCHES SHALL BE SHEETED OR BRACED AS REQUIRED BY OCCUPATIONAL HEALTH & SAFETY REGULATIONS TO PROTECT LIFE, PROPERTY AND THE WORK. ALL COSTS INCURRED SHALL BE BORNE BY THE CONTRACTOR. OPEN V-CUT METHODS OF EXCAVATION MAY BE USED PROVIDED THE TRENCH SIDES MEET REGULATIONS.
4. THE MAXIMUM TRENCH WIDTH AT THE TOP OF THE PIPE SHALL BE:
A. PIPE 900mm NOMINAL DIAMETER AND OVER; THE OUTSIDE DIAMETER OF THE PIPE PLUS 600mm.
B. PIPES UNDER 900mm NOMINAL DIAMETER; THE OUTSIDE DIAMETER OF THE PIPE PLUS 400mm, EXCEPT THE CONTRACTOR WILL NOT BE REQUIRED TO EXCAVATE A TRENCH LESS THAN 900mm WIDE.
5. REPLACE UNSTABLE FOUNDATION MATERIAL WITH COMPACTED GRANULAR, OR OTHER SPECIAL FOUNDATION AS REQUIRED AND APPROVED BY THE CONSULTANT. THIS SHALL BE CLASSIFIED AS EXTRA WORK UNDER THE TERMS OF THE CONTRACT. DEWATER EXCAVATIONS. NO EXTRA SHALL BE ALLOWED FOR WET EXCAVATION.
6. USE OF THE NEW PIPE FOR DEWATERING SHALL BE DONE ONLY ON THE APPROVAL OF THE CONSULTANT.
7. UNSUITABLE BACKFILL MATERIAL SUCH AS ROCKS AND CHUNKS OF CONCRETE AND MASONRY OVER 200mm IN DIAMETER SHALL BE HAULED FROM THE SITE AND DISPOSED OF.
8. CLEARANCE BETWEEN ROCKS LEFT IN PLACE IN THE TRENCH AND THE WALL OF THE PIPE SHALL BE A MINIMUM OF 150mm, THE SPACE BETWEEN THE ROCK AND THE PIPE SHALL BE FILLED WITH SELECTED AND COMPACTED MATERIAL.

BACKFILLING
1. INITIAL BACKFILLING TO 300mm ABOVE THE PIPE SHALL BE COMPACTED SELECT BACKFILL.
2. ABOVE THE 300mm LAYER, THE BACKFILL SHALL BE CLASS II. APPROVED EXCAVATED MATERIAL SHALL BE PLACED IN MAXIMUM 150mm LIFTS AND COMPACTED TO A MINIMUM OF 98% OF THE STANDARD PROCTOR DENSITY USING MECHANICAL COMPACTION EQUIPMENT.
3. STONES OVER 200mm IN DIAMETER, CHUNKS OF CONCRETE, ORGANIC OR FROZEN MATERIAL OR OTHER DEBRIS SUCH AS BRUSH AND ROOTS ARE NOT ALLOWED IN THE BACKFILL.
4. WHERE UTILITY PIPES CROSS EACH OTHER, THE MATERIAL BETWEEN THE PIPES SHALL BE BASE GRAVEL COMPACTED TO ELIMINATE SETTLEMENT.
5. ANY OPEN TRENCHES MUST BE APPROPRIATELY SECURED AND MARKED ACCORDING TO RULES AND REGULATIONS IN FORCE FOR THE SAFETY OF PEDESTRIANS AND VEHICLES.
6. UPON COMPLETION OF THE WORK REMOVE ALL UNUSED OR DAMAGED MATERIAL AND OTHER CONSTRUCTION DEBRIS FROM THE SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRS REQUIRED DUE TO SETTLEMENT OF THE TRENCH DURING THE MAINTENANCE PERIOD.

WATER
1. ALL WATER PIPE AS SPECIFIED ON DRAWINGS.
2. MINIMUM COVER ON ALL WATER MAINS IS TO BE 2.8m. PRESSURE TESTING AND CHLORINATION OF ALL MAINS IN ACCORDANCE WITH THE CITY OF SASKATOON AND HEALTH DEPARTMENT REQUIREMENTS.
3. INSTALL CONCRETE THRUST BACKING AS REQUIRED FOR FITTINGS AND TEES $0.4m^2$ TO UNDISTURBED TRENCH WALL. PIPE BEDDING SHALL BE CLASS B AS DETAILED.
4. BACTERIAL TESTING SHALL BE COMPLETED IN ACCORDANCE WITH SASKATCHEWAN WATER SECURITY AGENCY REGULATIONS.

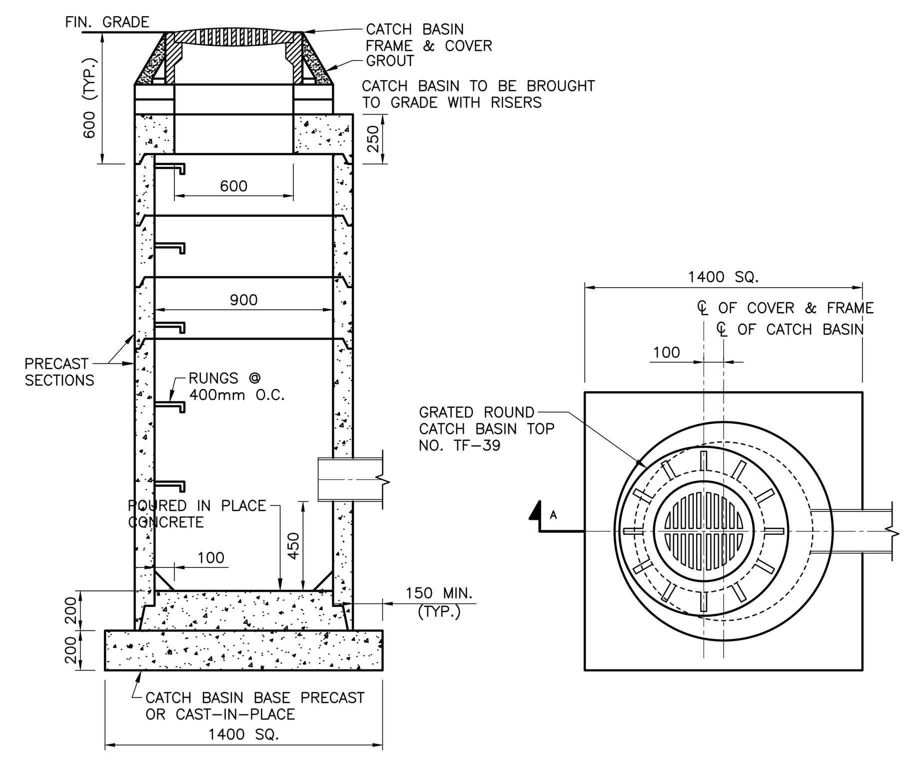
SANITARY/STORM SEWER
1. SANITARY SEWER SERVICE 150mm OR SMALLER SHALL BE SDR28 PVC. SEWER PIPING LARGER THAN 150mm IN DIAMETER SHALL BE SDR35 PVC. ALL PIPE SHALL BE COMPLETE WITH FACTORY INSTALLED RUBBER GASKET JOINTS.
2. PIPE BEDDING SHALL BE CLASS B AS DETAILED.
3. MANHOLE BARRELS AND CONES SHALL CONFORM TO ASTM C478. JOINTS SHALL BE SUITABLE FOR EITHER RUBBER GASKETS OR MASTIC SEALANTS. USE PRECAST BASE SECTIONS. ALUMINIUM STEPS SHALL BE CAST INTO THE SECTIONS USING POLYETHYLENE ANCHORS. CONE SECTIONS SHALL BE ECCENTRIC AND REDUCE TO 600mm. MINIMUM CONCRETE STRENGTH SHALL BE 27.6MPa IN 28 DAYS.
5. REINFORCING STEEL FOR BASE SHALL BE 10M REINFORCING RODS PLACED 150mm O.C. EACH WAY.
6. ALL CONCRETE SHALL BE PLACED MONOLITHICALLY.



NOTES:
1. SELECT BACKFILL TO BE FREE OF ALL LUMPS, STONES AND SUBSTANCES WHICH COULD REACT CHEMICALLY WITH PIPE MATERIAL.
2. PNEUMATIC OR MECHANICAL EQUIPMENT SHALL BE USED TO COMPACT THE BEDDING MATERIAL AND SELECT BACKFILL MATERIAL.
3. MINIMUM BEDDING REQUIREMENT FOR CLASS B SOIL TYPES.

BEDDING MAT. BELOW PIPE		LEGEND
D	d(MIN)	Dc = OUTSIDE DIAMETER
450mm & SMALLER	80mm	D = INSIDE DIAMETER
		d = DEPTH OF BEDDING BELOW PIPE

PIPE BEDDING DETAIL
SCALE: NTS

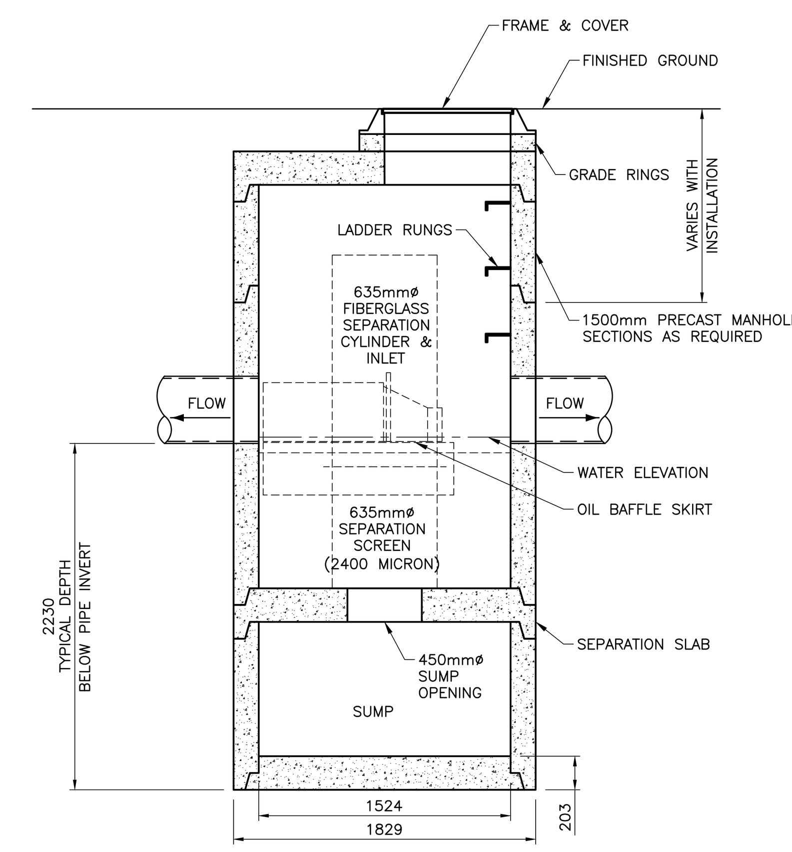


SECTION A
SCALE: N.T.S.

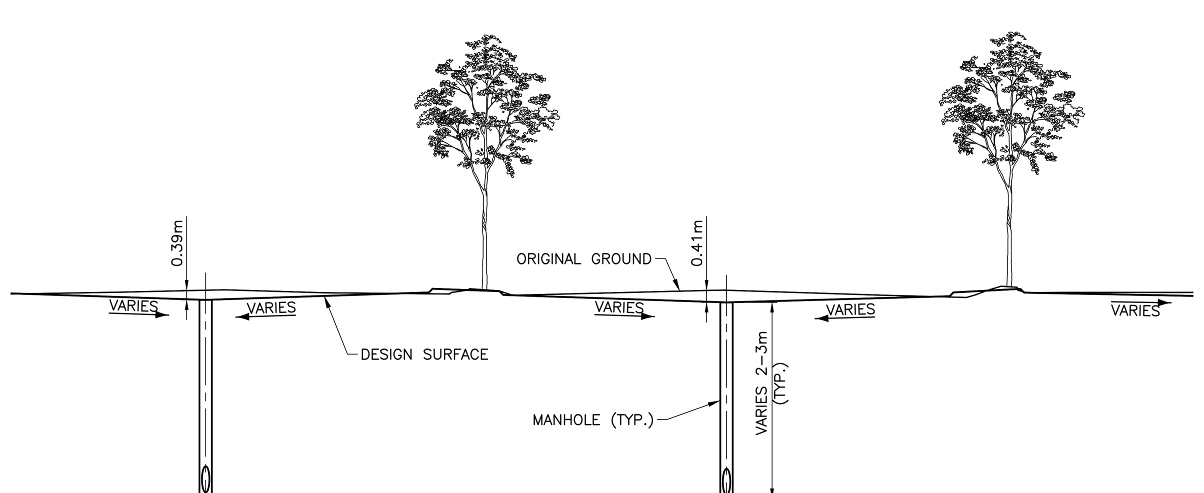
PLAN VIEW
SCALE: N.T.S.

NOTE:
1. FOR POURED IN PLACE BASE SET C.B. BARREL IN WET CONCRETE
2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

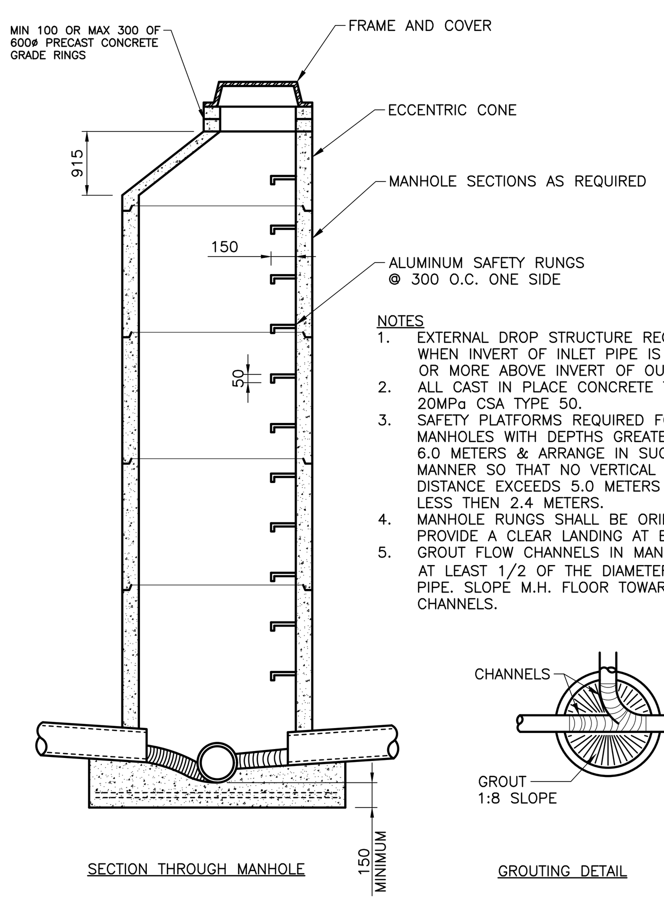
900mm PRE-CAST CATCH BASIN
SCALE: NTS



OIL & GRIT SEPARATOR CDS2025
SCALE: NTS

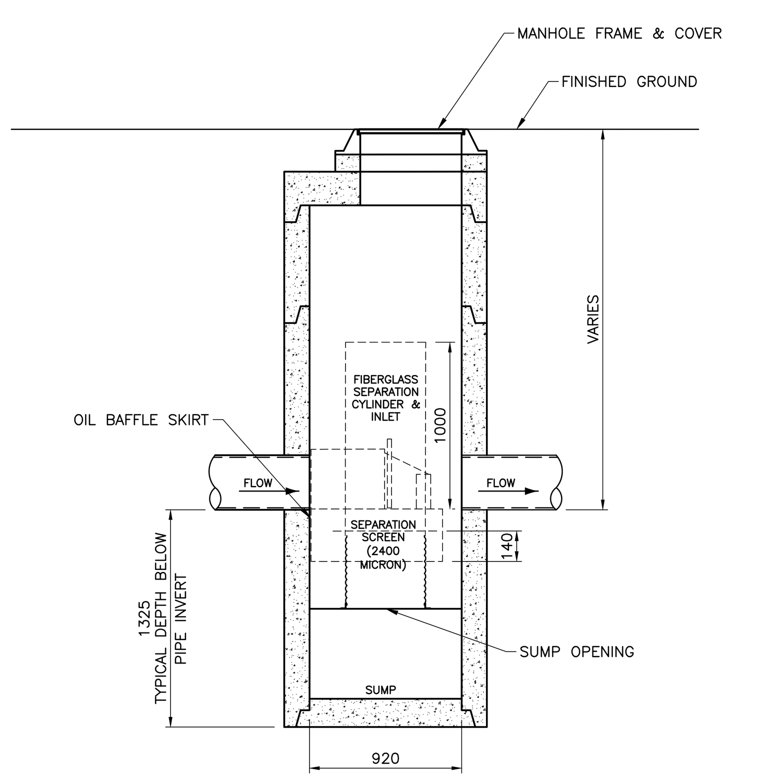


TYPICAL PARKING MEDIAN CROSS SECTION
SCALE: NTS



NOTES
1. EXTERNAL DROP STRUCTURE REQUIRED WHEN INVERT OF INLET PIPE IS 750mm OR MORE ABOVE INVERT OF OUTLET PIPE.
2. ALL CAST IN PLACE CONCRETE TO BE 20MPa CSA TYPE 50.
3. SAFETY PLATFORMS REQUIRED FOR MANHOLES WITH DEPTHS GREATER THEN 6.0 METERS & ARRANGE IN SUCH A MANNER SO THAT NO VERTICAL FALL DISTANCE EXCEEDS 5.0 METERS OR IS LESS THEN 2.4 METERS.
4. MANHOLE RUNGS SHALL BE ORIENTED TO PROVIDE A CLEAR LANDING AT BASE.
5. GROUT FLOW CHANNELS IN MANHOLE BASE AT LEAST 1/2 OF THE DIAMETER OF THE PIPE. SLOPE M.H. FLOOR TOWARDS FLOW CHANNELS.

MANHOLE DETAIL
SCALE: NTS



OIL & GRIT SEPARATOR CDS1515-3
SCALE: NTS

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REVISIONS

No.	DESCRIPTION	DATE
1	ISSUED FOR PERMIT	17/11/29
2	ISSUED FOR REVIEW	17/12/20

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PROJECT
GORDIE HOWE SPORTS COMPLEX - PHASE 5

SASKATOON, SK

DRAWING NAME
DETAILS

DRAWN	R.BELL	DRAWING
DATE	SEPT 2017	TC-7
FILE	17-938	
CHECKED	R.ROGAL	

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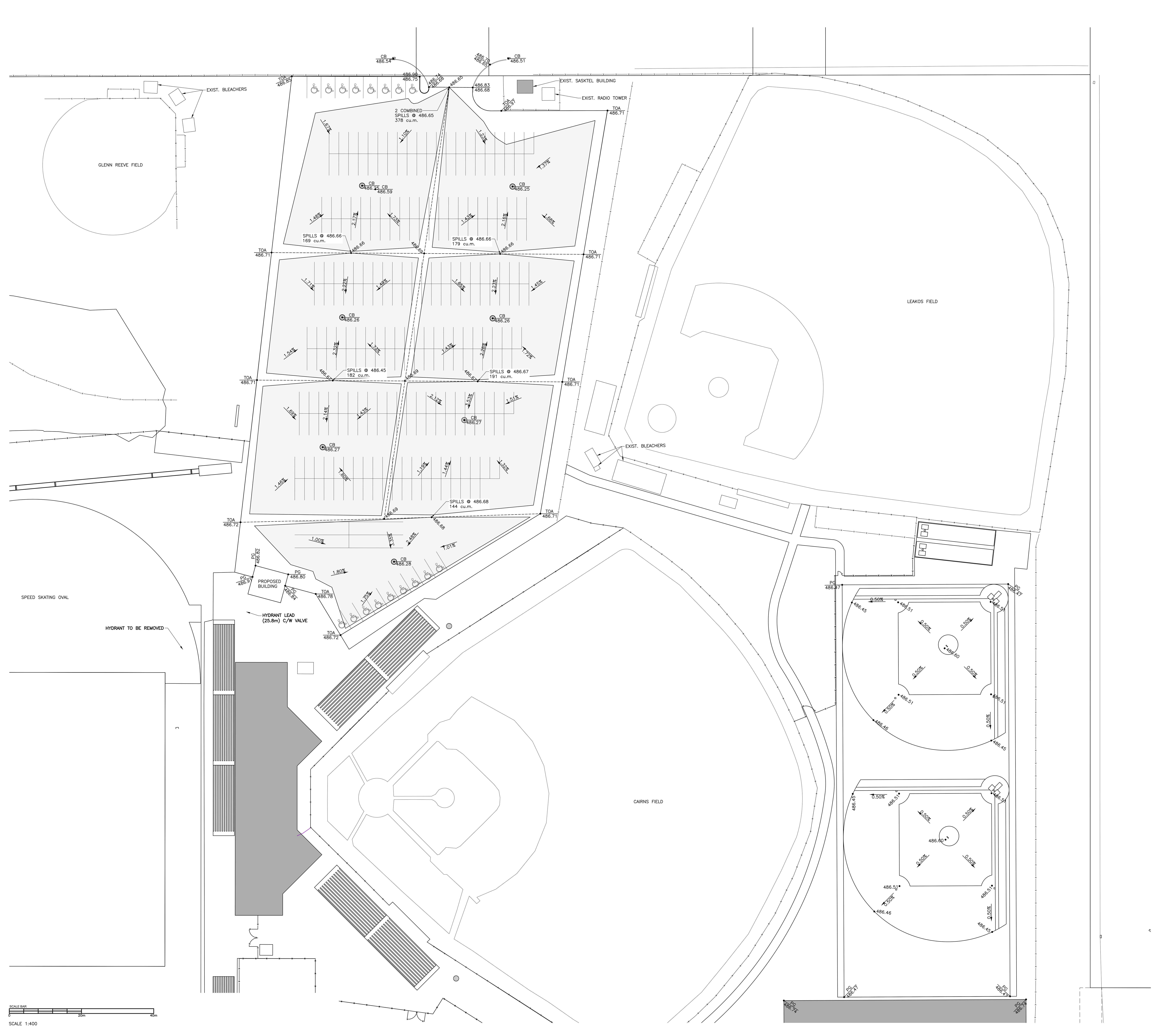

LEGEND:

X.XX%	DRAINAGE DIRECTION & GRADE
PG XXX.XX	PERIMETER GRADE ELEVATION
CB XXX.XX	CATCH BASIN RIM ELEVATION
EXIST XXX.XX	EXIST. ELEVATION
XXX.XX	DESIGN ELEVATION
	CATCH BASIN / CATCH BASIN MANHOLE
	EXIST. CATCH BASIN IN CURB
	RIDGE LINE
	EXIST. FENCE LINE

NORTH EAST *PRE-DEVELOPMENT C FACTOR		
TYPE	AREA (sq.m)	2 YR C
ASPHALT	1320	0.95
CONCRETE	2675	0.95
ROOF	1988	0.95
LANDSCAPING	62885	0.10
GRAVEL	18865	0.50
TOTAL	87733	0.24

NORTH EAST *POST-DEVELOPMENT C FACTOR		
TYPE	AREA (sq.m)	2 YR C
ASPHALT	12388	0.95
CONCRETE	6394	0.95
ROOF	1780	0.95
SYNTHETIC TRACK	6193	0.95
LANDSCAPING	39351	0.10
GRAVEL	8156	0.50
TOTAL	74262	0.45

STORM WATER RUNOFF STORAGE CALCULATIONS FOR NORTH EAST SIDE

NOTE:
STORAGE CALCULATIONS BASED ON COS NNDDSM
ONSITE STORAGE REQUIREMENT.

Cd= 0.39 CITY OF SASKATOON DESIGN C FACTOR
Cp= 0.53 SITE DESIGN C FACTOR
A= 869-(200*Cd)
B= 33-(1055*Cd)

REQUIRE STORAGE
VOLUME(cu.m/ha)=A*(Cp-Cd)+B(Cp-Cd)^2
VOLUME(cu.m)= 1208 cu.m.

SURFACE STORAGE PROVIDED= 1243 cu.m.
PIPE STORAGE PROVIDED= *** cu.m.
MANHOLE STORAGE PROVIDED= *** cu.m.
TOTAL STORAGE PROVIDED= **** cu.m.

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PROJECT

GORDIE HOWE SPORTS COMPLEX - PHASE 5

SASKATOON, SK

DRAWING NAME

NORTH EAST SECTOR GRADING PLAN

DRAWN	R.BELL	DRAWING
DATE	DEC 2017	
FILE	17-938	TC-8
CHECKED	R.ROGAL	

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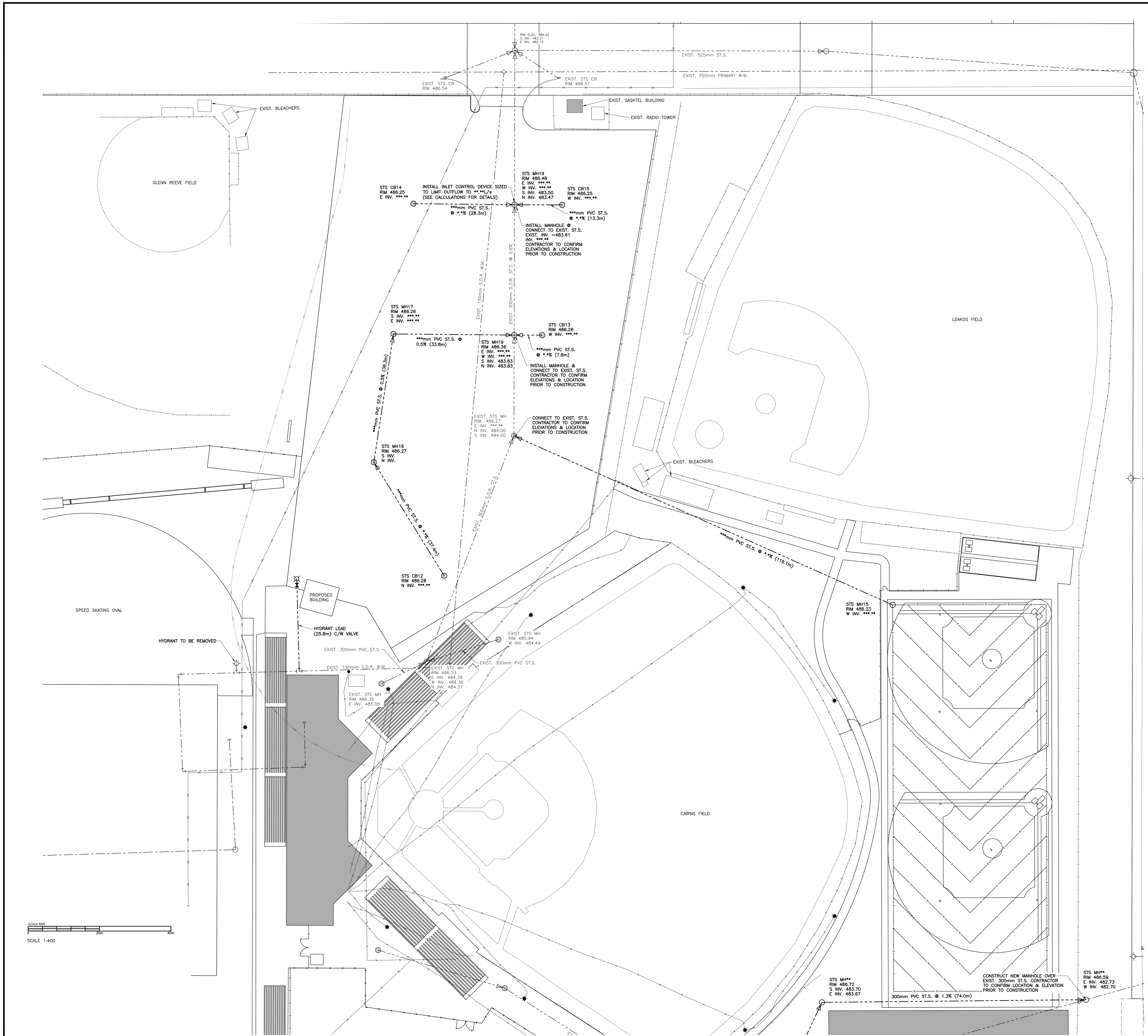

LEGEND:

○	MANHOLE
◍	CATCH BASIN\ CATCH BASIN MANHOLE
▭	EXIST. CATCH BASIN IN CURB
▷	FLOW DIRECTION
——GAS——	EXIST. GAS LINE
——TEL——	EXIST. PHONE LINE
——ABDN T——	EXIST. ABANDONED PHONE LINE
— — — — —	EASEMENT
——x——x——	EXIST. FENCE

ALLOWABLE DISCHARGE

NOTE:
STORAGE CALCULATIONS BASED ON COS NNDDSM
MAXIMUM ALLOWABLE DISCHARGE RATE.

Cd= 0.24 CITY OF SASKATOON DESIGN C FACTOR

FLOW(L/s/ha)=114*Cd
FLOW(L/s)= 203.18

ORIFICE SIZE CALCULATION

Q= 0.20318	ALLOWABLE RELEASE RATE (cu.m/s)
K= 0.61	CONSTANT
A=	AREA OR ORIFICE (sq.m)
g= 9.81	ACCELERATION OF GRAVITY (m/s^2)
h= 2.80	HEAD (m)

Q=KA(2gh)^0.5
A= 0.045sq.m
DIAMETER= 2.39m

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PROJECT

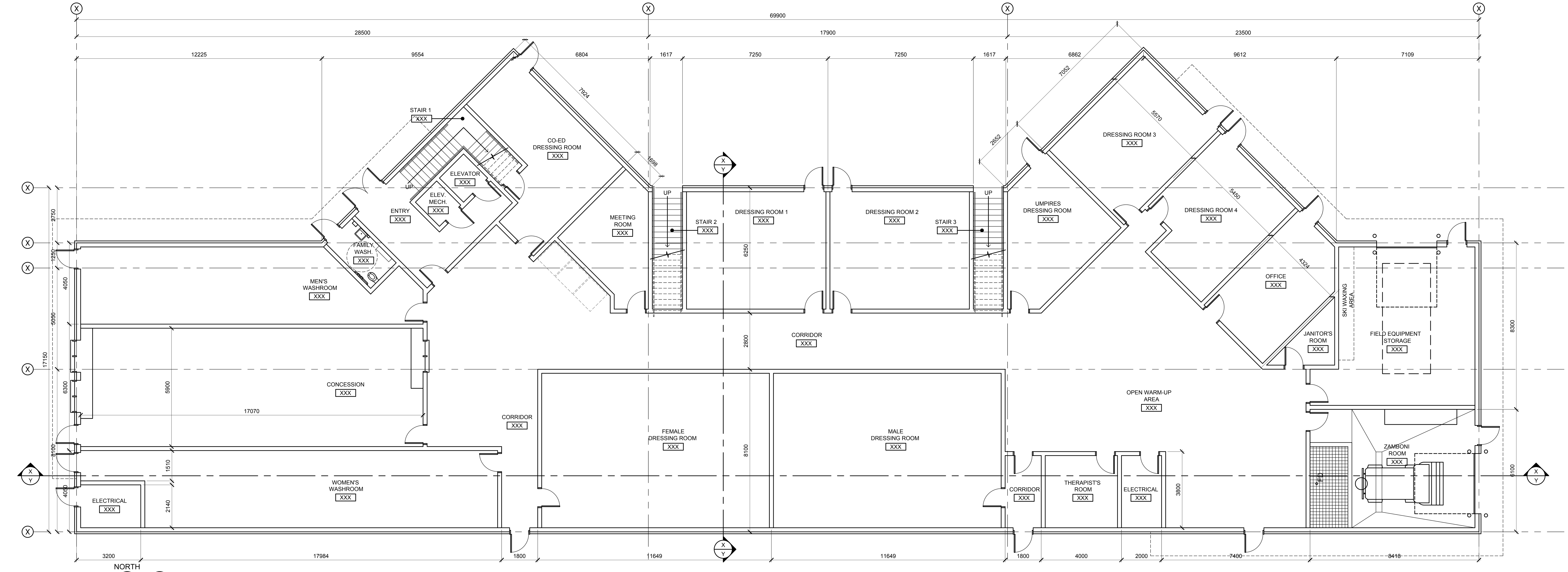
GORDIE HOWE SPORTS COMPLEX - PHASE 5

SASKATOON, SK

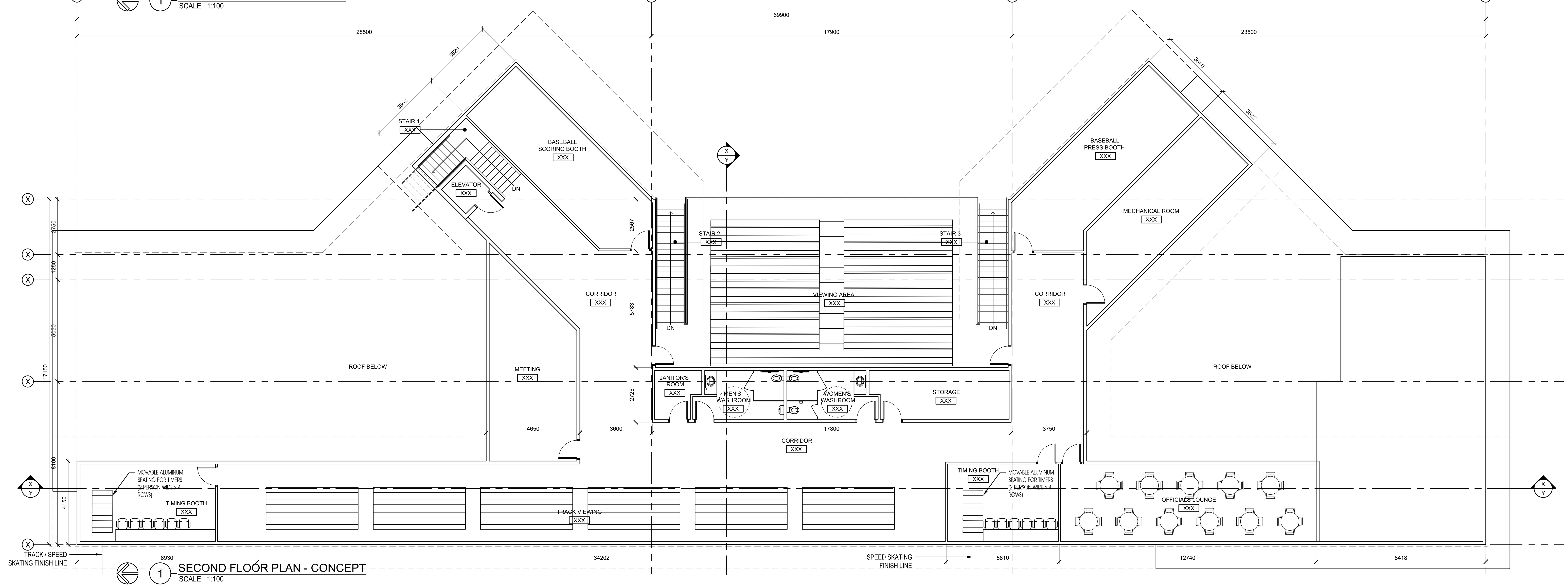
DRAWING NAME

NORTH EAST SECTOR SERVICING PLAN

DRAWN	R.BELL	DRAWING
DATE	DEC 2017	
FILE	17-938	TC-9
CHECKED	R.ROGAL	



1 MAIN FLOOR PLAN - CONCEPT
SCALE 1:100



1 SECOND FLOOR PLAN - CONCEPT
SCALE 1:100

THIS DRAWING MUST NOT BE SCALED.

GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS, DATA AND LEVELS PRIOR TO COMMENCING WORK. ALL ERRORS AND OMISSIONS SHALL BE REPORTED TO THE ARCHITECT IMMEDIATELY.

VARIATIONS AND MODIFICATIONS TO WORK SHOWN ON THESE DRAWINGS SHALL NOT BE CARRIED OUT WITHOUT THE WRITTEN PERMISSION OF THE ARCHITECT.

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REV'N:	COMMENTS:	DATE:
	REVISED	08/21/17

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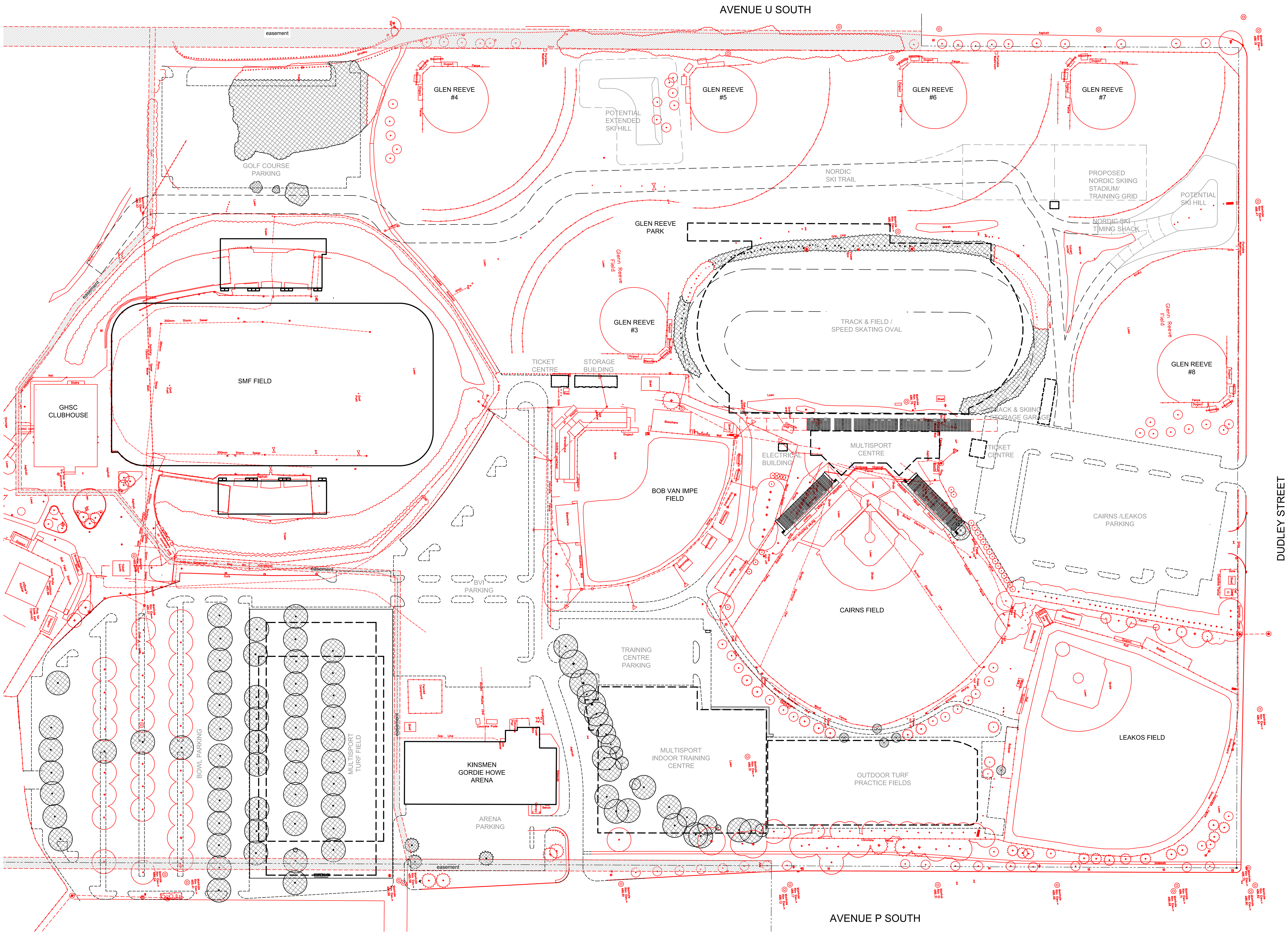
PROJECT:
GORDIE HOWE SPORTS COMPLEX - PHASE 5 MULTI-SPORTS CENTRE
CIVIC ADDRESS
SASKATOON, SASKATCHEWAN

CONTENTS:
MAIN FLOOR PLAN (CONCEPT)
SECOND FLOOR PLAN (CONCEPT)

DRAWN: JO
CHECKED: DE
DATE: AUGUST 2017
FILE: 3691
SHEET NO: A1.0



TREE REMOVALS

1:1000

0 5 10 20 30 50m

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REVISIONS

No.	DESCRIPTION	DATE
0	CITY & MEEWASIN REVIEW	2017-12-21

Existing conditions taken from Webb Surveys, Topography Plan, dated October 10, 2017.

CONIFEROUS TREES (126 ±) - to be removed

DECIDUOUS TREES (90) - to be removed

NATURAL AREAS (3095 m² ±) - to be removed

GENERAL OUTLINES OF PROPOSED DEVELOPMENT

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PROJECT

GORDIE HOWE SPORTS COMPLEX PHASE 5

SASKATOON, SK

DRAWING NAME

TREE REMOVALS

DRAWN	KS	DRAWING
DATE	2017-12-21	
FILE	17-938 (CHA 17094)	PL-0
CHECKED	RC	

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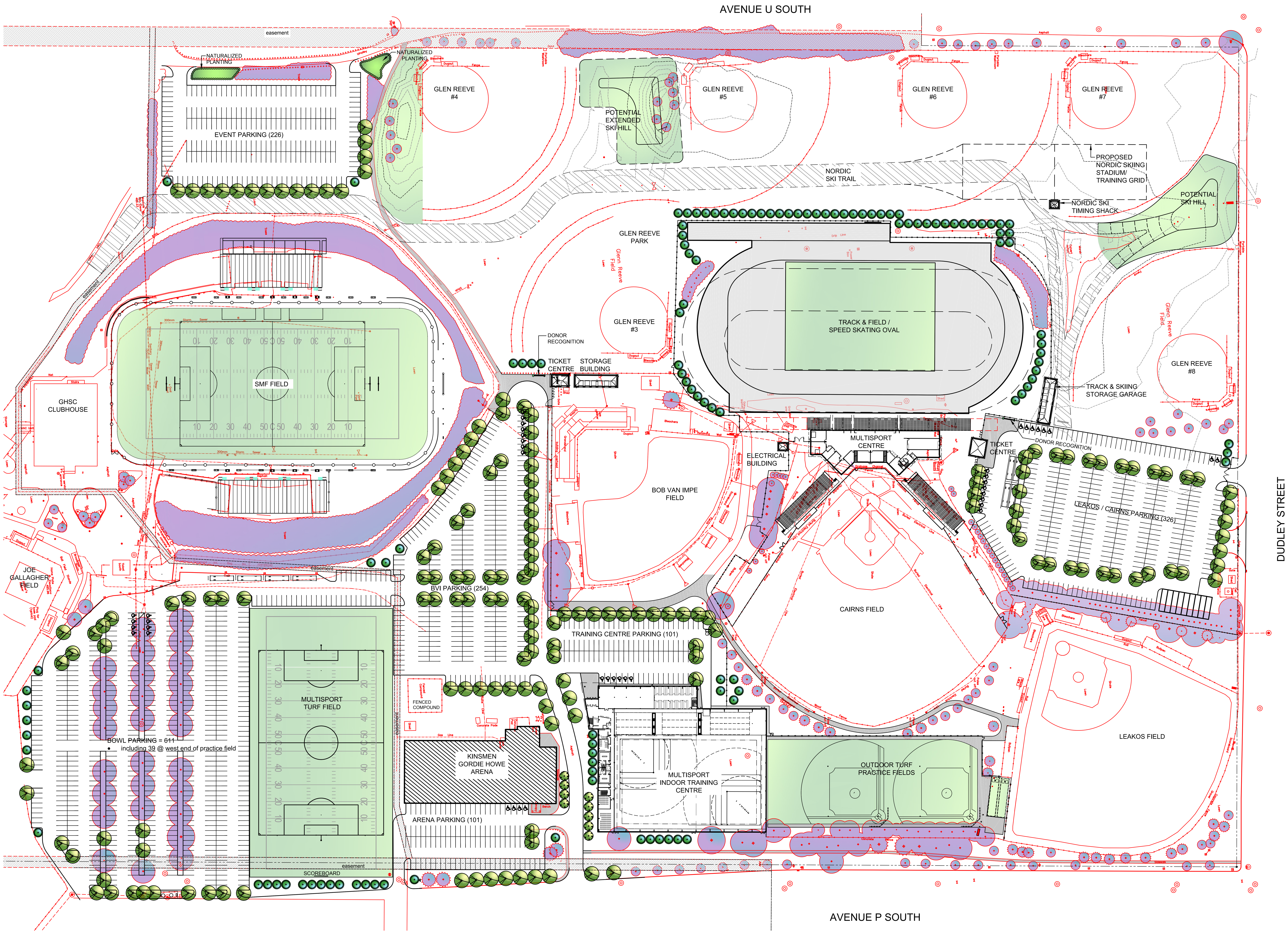

LANDSCAPE CONCEPT

1:1000

0 5 10 20 30 50m

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REVISIONS

No.	DESCRIPTION	DATE
0	CITY & MEEWASIN REVIEW	2017-12-21

THIS IS AN INITIAL LANDSCAPE CONCEPT, SUBJECT TO REVISION AS PLANS EVOLVE AND ARE COORDINATED WITH OTHER DISCIPLINES.

- EXISTING CONIFEROUS TREES TO REMAIN
- EXISTING DECIDUOUS TREES TO REMAIN
- EXISTING NATURALIZED VEGETATION TO REMAIN
- PROPOSED CONIFEROUS TREES (113) - approx. 13 fewer than removals
- PROPOSED DECIDUOUS TREES (178) - approx. 88 more than removals
- PROPOSED NATURALIZED PLANTING (291 m² ±) - approx. 2800m^2 less than removals

SITE PARKING:

- BOWL 611
- ARENA 101
- BVI 254
- TRAINING CENTRE 101
- EVENT 226
- LEAKOS/CAIRNS 326

TOTAL PARKING STALLS 1619
EXISTING PARKING STALLS (1252)

ADDITIONAL PARKING STALLS 367
BARRIER FREE PARKING

- 17 required; 43 provided

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PROJECT

GORDIE HOWE SPORTS COMPLEX PHASE 5
SASKATOON, SK

DRAWING NAME

LANDSCAPE CONCEPT

DRAWN	KS	DRAWING
DATE	2017-12-21	PL-1
FILE	17-938 (CHA 17094)	
CHECKED	RC	

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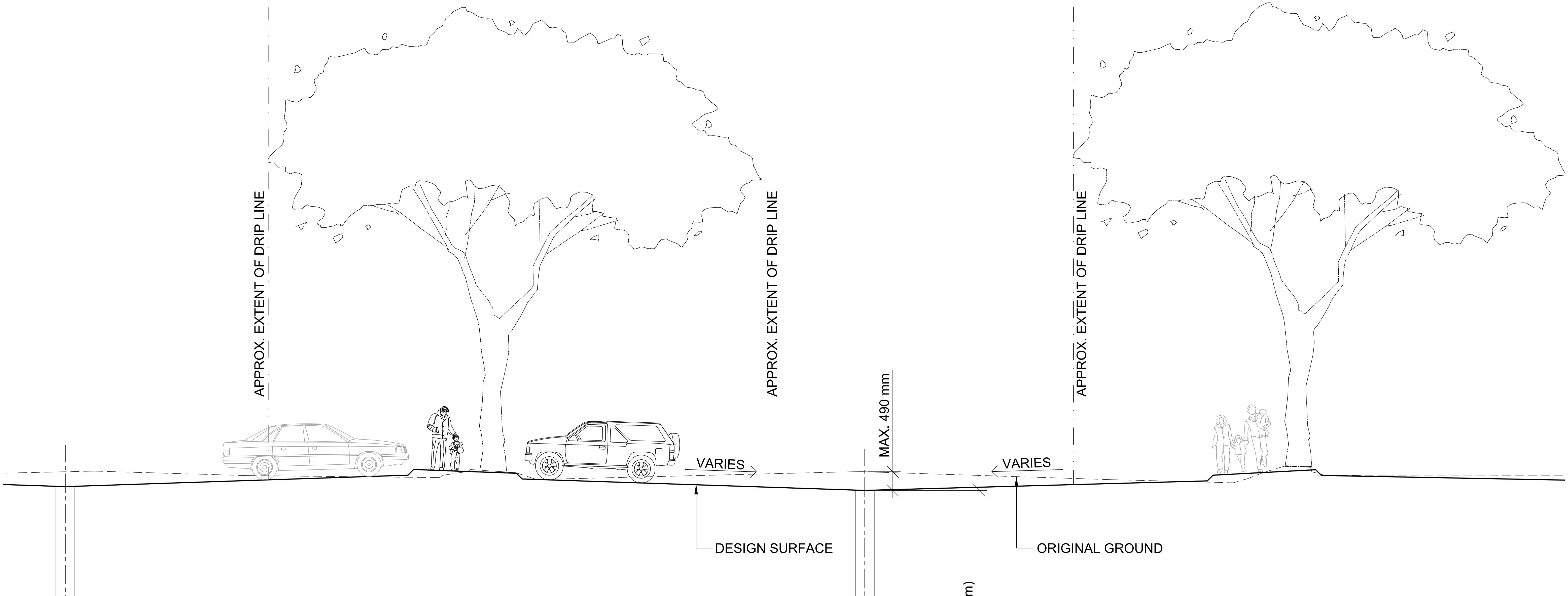

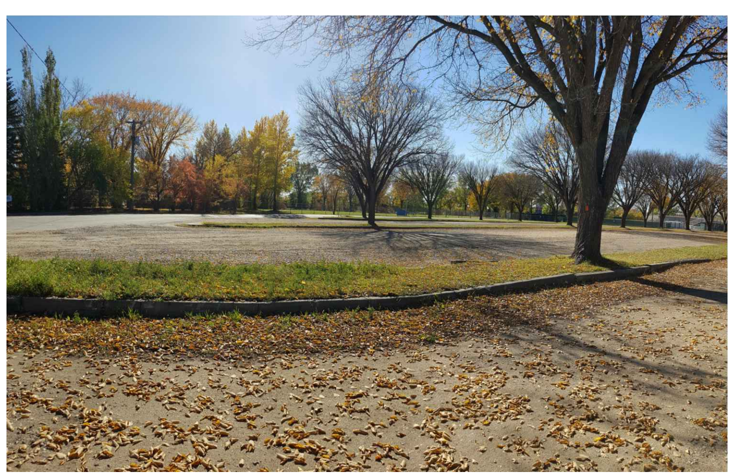

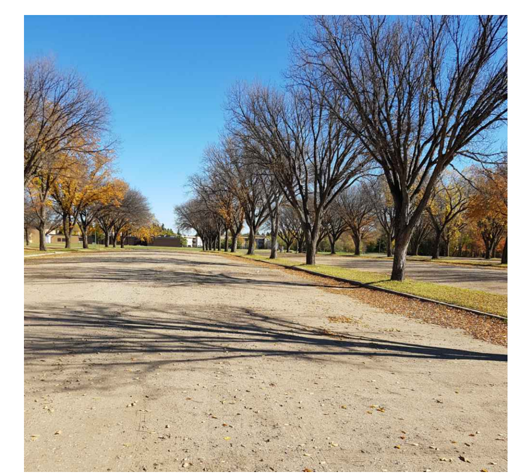

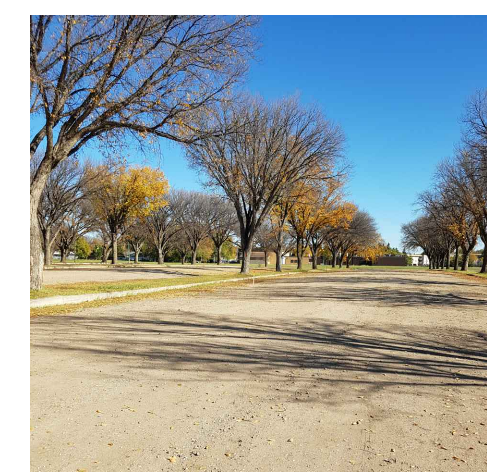

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GORDIE HOWE SPORTS COMPLEX - PHASE 5

Project Title

SECTION AT BOWL PARKING MEDIAN

Drawing Title

Drawn	KS	Checked	MT
Scale	1:100	Date	2017/12/21
Project No.	17094	Drawing	PL-2

- SECTION BASED ON INFORMATION PROVIDED BY CATTERALL & WRIGHT 2017-12-19.

Notes

FRIENDS OF THE BOWL FOUNDATION ™

Leakos Field

Saskatoon,SK

Lighting System

Pole / Fixture Summary

Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Group
A1-A2	70'	15'	1	TLC-BT-675	0.68 kW	A
		70'	4	TLC-LED-1150	4.60 kW	A
B1-B2	80'	15'	2	TLC-BT-675	1.35 kW	A
		80'	10	TLC-LED-1150	11.50 kW	A
C1-C2	70'	15'	2	TLC-BT-675	1.35 kW	A
		70'	7	TLC-LED-1150	8.05 kW	A
6			***52***		***55.05 kW***	

Group Summary

Group	Description	Avg Load	Max Load	Fixture Qty
A	Baseball	55.05 kW	55.05 kW	52

Fixture Type Summary

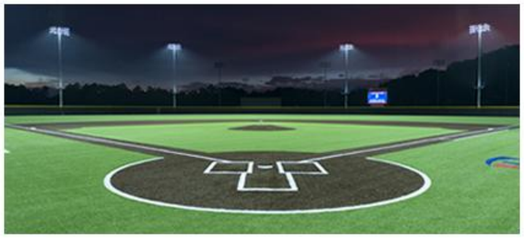
Type	Source	Wattage	Lumens	L90	L80	L70	Quantity
TLC-LED-1150	LED 5700K - 75 CRI	1150W	121,000	>51,000	>51,000	>51,000	42
TLC-BT-675	LED 5700K - 75 CRI	675W	48,000	>51,000	>51,000	>51,000	10

Light Level Summary

Calculation Grid Summary

Grid Name	Calculation Metric	Illumination				Groups	Fixture Qty
		Ave	Min	Max	Max/Min		
Baseball (Infield)	Horizontal Illuminance	50.2	36	62	1.74	A	52
Baseball (Outfield)	Horizontal Illuminance	30.2	20	44	2.17	A	52
Bullpen 1	Horizontal	15.2	10	23	2.26	A	52
Bullpen 2	Horizontal	17.4	11	25	2.23	A	52

From Hometown to Professional



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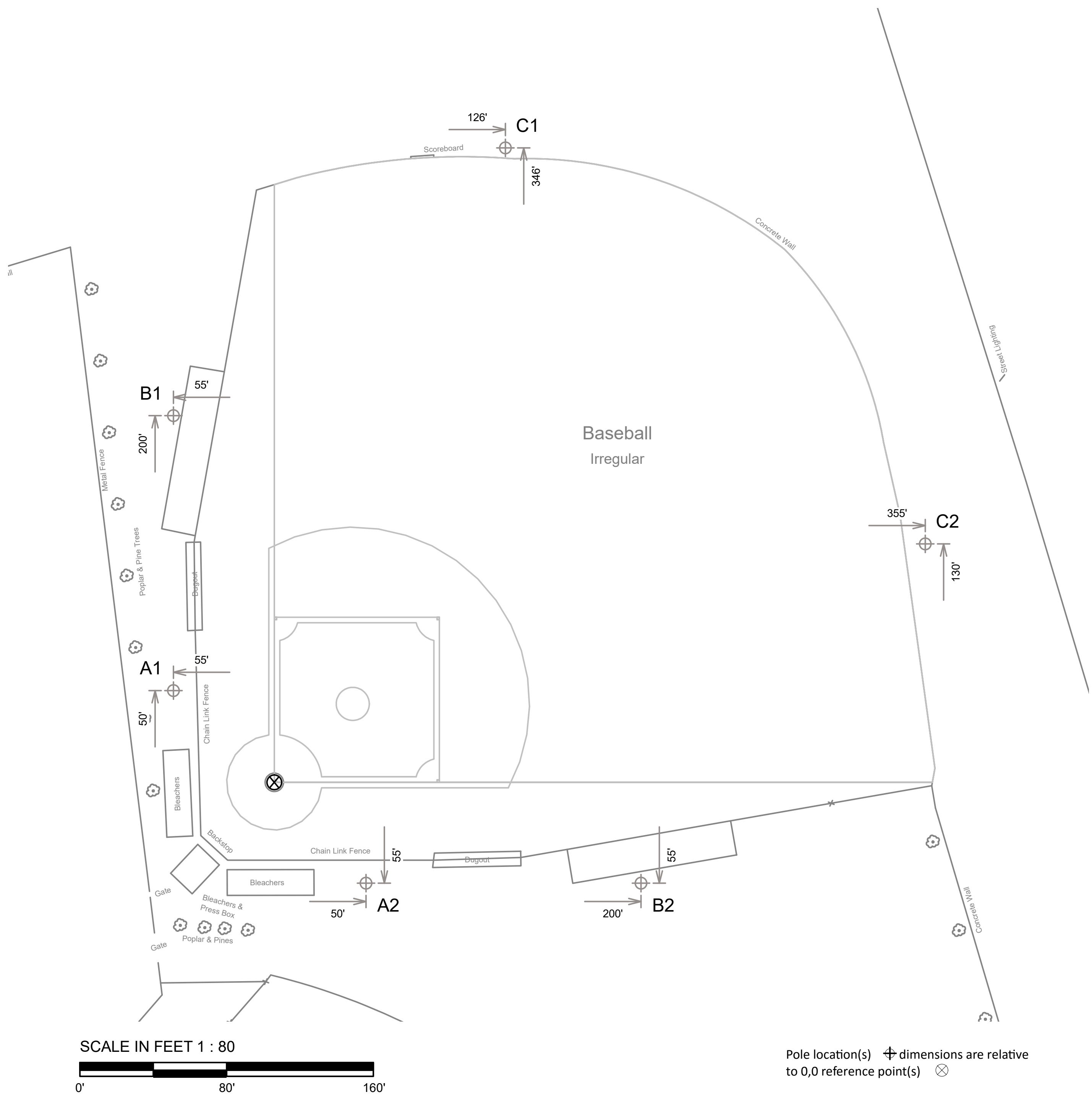

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

Leakos Field
Saskatoon,SK

EQUIPMENT LAYOUT

INCLUDES:
· Baseball

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires		
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE
2	A1-A2	70'	-	15' 70'	TLC-BT-675 TLC-LED-1150	1 4
2	B1-B2	80'	-	15' 80'	TLC-BT-675 TLC-LED-1150	2 10
2	C1-C2	70'	-	15' 70'	TLC-BT-675 TLC-LED-1150	2 7
6	TOTALS					52

SINGLE LUMINAIRE AMPERAGE DRAW CHART

Ballast Specifications (.90 min power factor)	Line Amperage Per Luminaire (max draw)						
Single Phase Voltage	208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	380 (60)	480 (60)
TLC-LED-1150	7.0	6.6	6.1	5.2	4.2	3.8	3.0
TLC-BT-675	4.0	3.8	3.5	3.0	2.4	2.2	1.8

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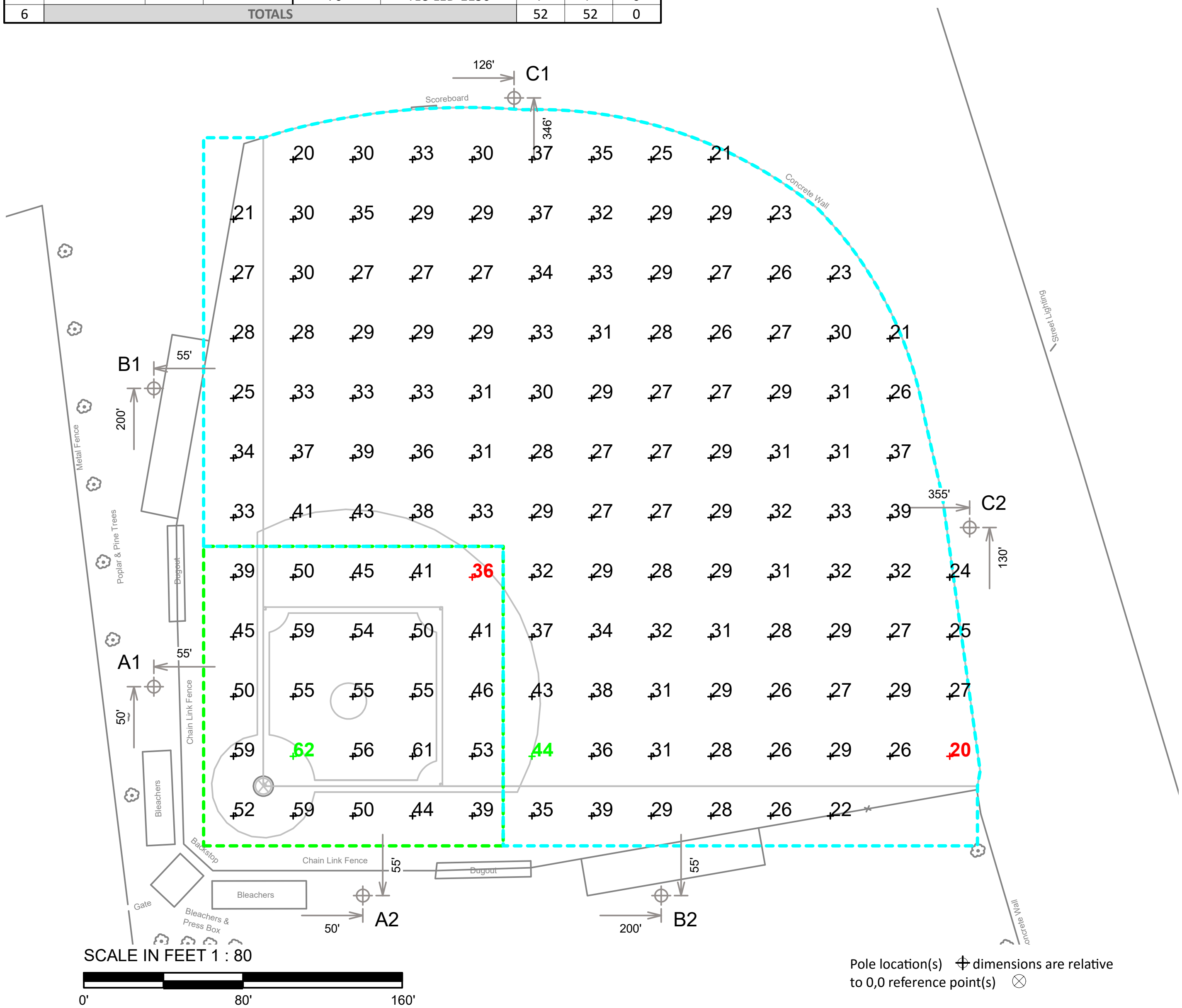
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	A1-A2	70'	-	15' 70'	TLC-BT-675 TLC-LED-1150	1 4	1 4	0 0
2	B1-B2	80'	-	15' 80'	TLC-BT-675 TLC-LED-1150	2 10	2 10	0 0
2	C1-C2	70'	-	15' 70'	TLC-BT-675 TLC-LED-1150	2 7	2 7	0 0
6	TOTALS					52	52	0



Pole location(s) ⌖ dimensions are relative to 0,0 reference point(s) ⊗

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Leakos Field
Saskatoon,SK

GRID SUMMARY

Name:	**Baseball**
Size:	Irregular 326' / 402' / 359'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	50.23	30.20
Maximum:	62	44
Minimum:	36	20
Avg / Min:	1.41	1.49
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.74	2.17
UG (adjacent pts):	1.37	1.47
CU:	0.77	
No. of Points:	25	115

LUMINAIRE INFORMATION

Color / CRI:	5700K - 75 CRI
Luminaire Output:	121,000 / 48,000 lumens
No. of Luminaires:	**52**
Total Load:	55.05 kW

Lumen Maintenance

Luminaire Type	L90 hrs	L80 hrs	L70 hrs
TLC-LED-1150	>51,000	>51,000	>51,000
TLC-BT-675	>51,000	>51,000	>51,000

Reported per TM-21-11. See luminaire datasheet for details.

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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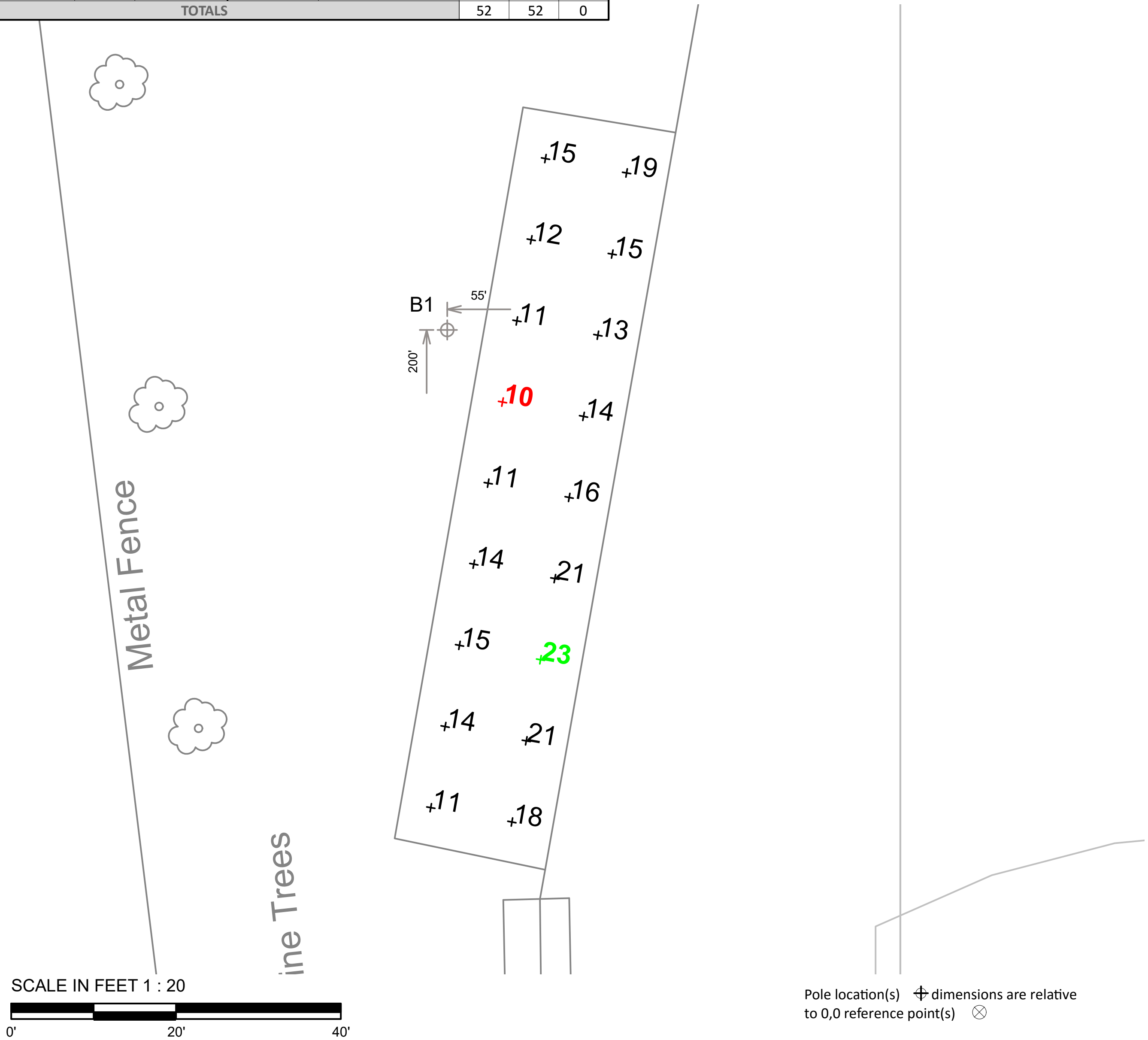
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	A1-A2	70'	-	15'	TLC-BT-675	1	1	0
				70'	TLC-LED-1150	4	4	0
2	B1-B2	80'	-	15'	TLC-BT-675	2	2	0
				80'	TLC-LED-1150	10	10	0
2	C1-C2	70'	-	15'	TLC-BT-675	2	2	0
				70'	TLC-LED-1150	7	7	0
6	TOTALS					52	52	0



Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

Leakos Field
Saskatoon,SK

GRID SUMMARY

Name:	**Bullpen 1**
Size:	Irregular 326' / 402' / 359'
Spacing:	10.0' x 10.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Entire Grid
Scan Average:	**15.21**
Maximum:	23
Minimum:	10
Avg / Min:	1.50
Max / Min:	**2.26**
UG (adjacent pts):	1.57
CU:	0.00
No. of Points:	18

LUMINAIRE INFORMATION

Color / CRI:	5700K - 75 CRI
Luminaire Output:	121,000 / 48,000 lumens
No. of Luminaires:	**52**
Total Load:	55.05 kW

Lumen Maintenance

Luminaire Type	L90 hrs	L80 hrs	L70 hrs
TLC-LED-1150	>51,000	>51,000	>51,000
TLC-BT-675	>51,000	>51,000	>51,000

Reported per TM-21-11. See luminaire datasheet for details.

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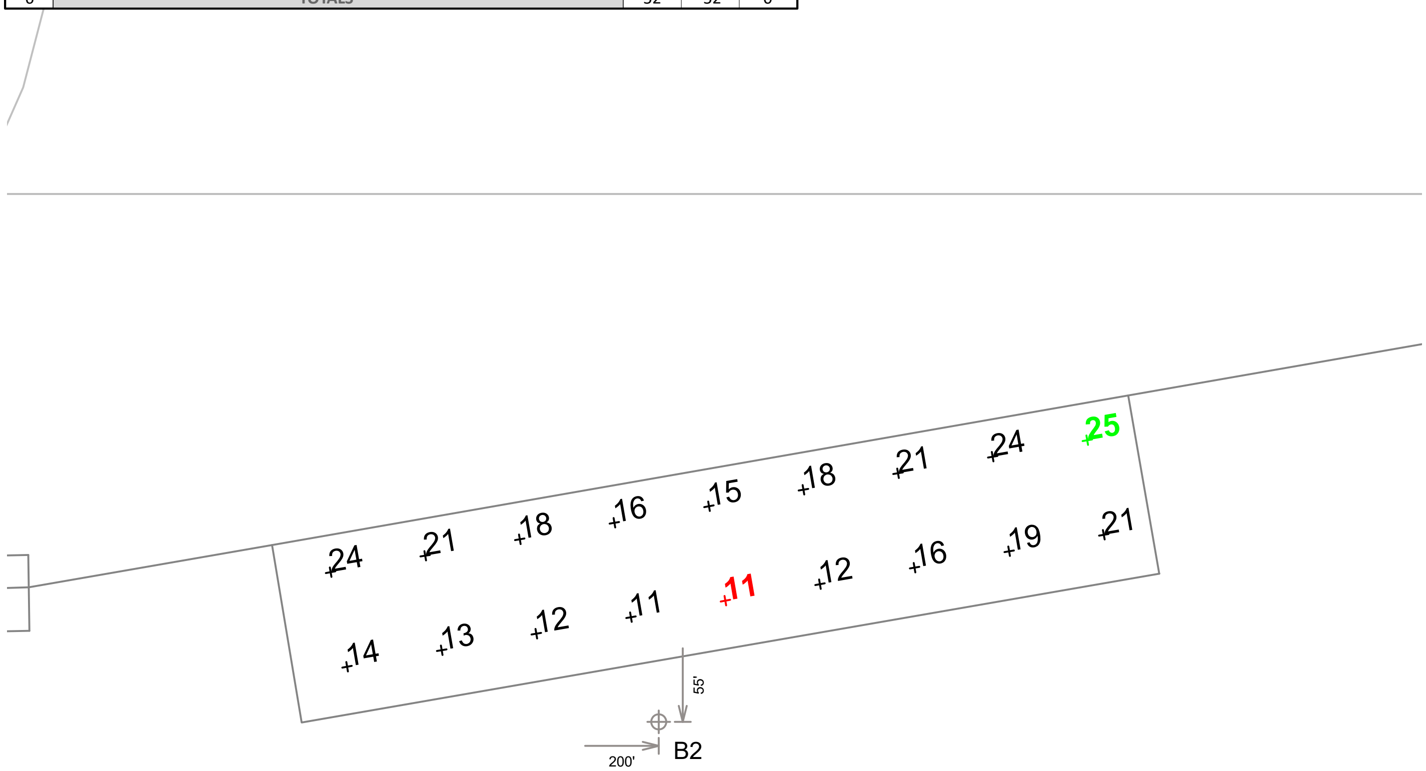
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	A1-A2	70'	-	15'	TLC-BT-675	1	1	0
				70'	TLC-LED-1150	4	4	0
2	B1-B2	80'	-	15'	TLC-BT-675	2	2	0
				80'	TLC-LED-1150	10	10	0
2	C1-C2	70'	-	15'	TLC-BT-675	2	2	0
				70'	TLC-LED-1150	7	7	0
6	TOTALS					52	52	0



SCALE IN FEET 1 : 20

0' 20' 40'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

Leakos Field

Saskatoon,SK

GRID SUMMARY

Name:	**Bullpen 2**
Size:	Irregular 326' / 402' / 359'
Spacing:	10.0' x 10.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Entire Grid
Scan Average:	**17.36**
Maximum:	25
Minimum:	11
Avg / Min:	1.57
Max / Min:	**2.23**
UG (adjacent pts):	1.68
CU:	0.01
No. of Points:	18

LUMINAIRE INFORMATION

Color / CRI:	5700K - 75 CRI
Luminaire Output:	121,000 / 48,000 lumens
No. of Luminaires:	**52**
Total Load:	55.05 kW

Lumen Maintenance

Luminaire Type	L90 hrs	L80 hrs	L70 hrs
TLC-LED-1150	>51,000	>51,000	>51,000
TLC-BT-675	>51,000	>51,000	>51,000

Reported per TM-21-11. See luminaire datasheet for details.

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Multi-Sport Field

Saskatoon,SK

Lighting System

Pole / Fixture Summary

Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Group
F1-F4	24.4	4.6	2	TLC-BT-675	1.35 kW	A
		24.4	13	TLC-LED-1150	14.95 kW	A
4			*60*		*65.20 kW*	

Group Summary

Group	Description	Avg Load	Max Load	Fixture Qty
A	Football/Soccer	65.2 kW	65.2 kW	60

Fixture Type Summary

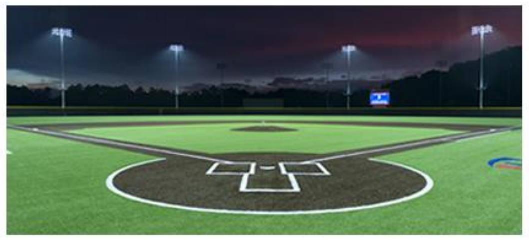
Type	Source	Wattage	Lumens	L90	L80	L70	Quantity
TLC-BT-675	LED 5700K - 75 CRI	675W	48,000	>51,000	>51,000	>51,000	8
TLC-LED-1150	LED 5700K - 75 CRI	1150W	121,000	>51,000	>51,000	>51,000	52

Light Level Summary

Calculation Grid Summary

Grid Name	Calculation Metric	Illumination				Groups	Fixture Qty
		Ave	Min	Max	Max/Min		
Football	Horizontal Illuminance	52.3	37	66	1.78	A	60
Soccer	Horizontal Illuminance	52.5	40	65	1.62	A	60

From Hometown to Professional



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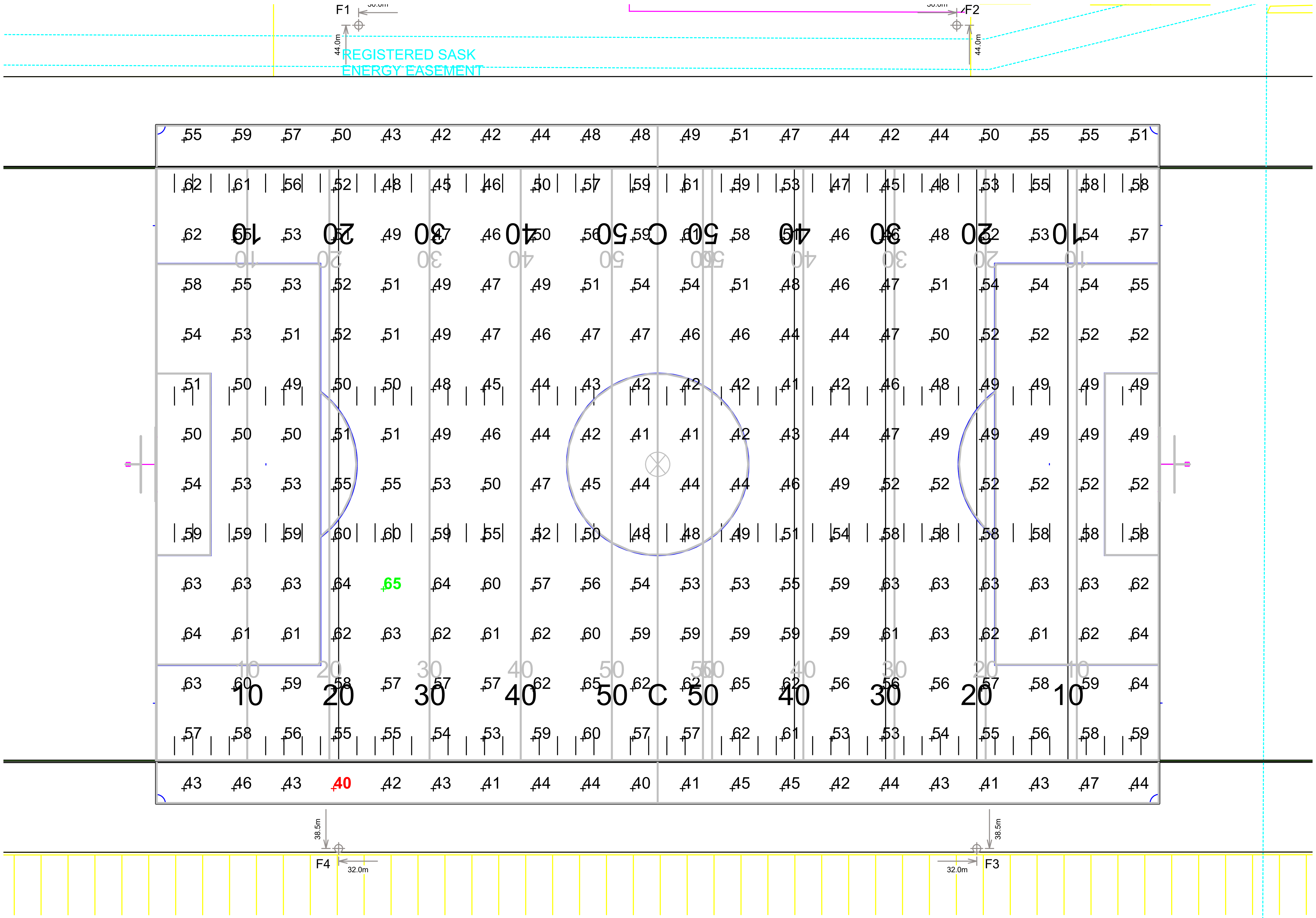
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
4	F1-F4	24.38m	-	4.57m	TLC-BT-675	2	2	0
				24.38m	TLC-LED-1150	13	13	0
4	TOTALS					60	60	0



SCALE 1: 400

0 10m 20m

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Multi-Sport Field

Saskatoon,SK

GRID SUMMARY

Name:	Soccer
Size:	100.6m x 68.0m
Spacing:	5.0m x 5.0m
Height:	1.0m above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Entire Grid
Guaranteed Average:	**50**
Scan Average:	52.53
Maximum:	65
Minimum:	40
Avg / Min:	1.32
Max / Min:	**1.62**
UG (adjacent pts):	1.40
CU:	0.59
No. of Points:	280

LUMINAIRE INFORMATION

Color / CRI:	5700K - 75 CRI
Luminaire Output:	48,000 / 121,000 lumens
No. of Luminaires:	**60**
Total Load:	65.2 kW

Lumen Maintenance

Luminaire Type	L90 hrs	L80 hrs	L70 hrs
TLC-BT-675	>51,000	>51,000	>51,000
TLC-LED-1150	>51,000	>51,000	>51,000

Reported per TM-21-11. See luminaire datasheet for details.

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Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

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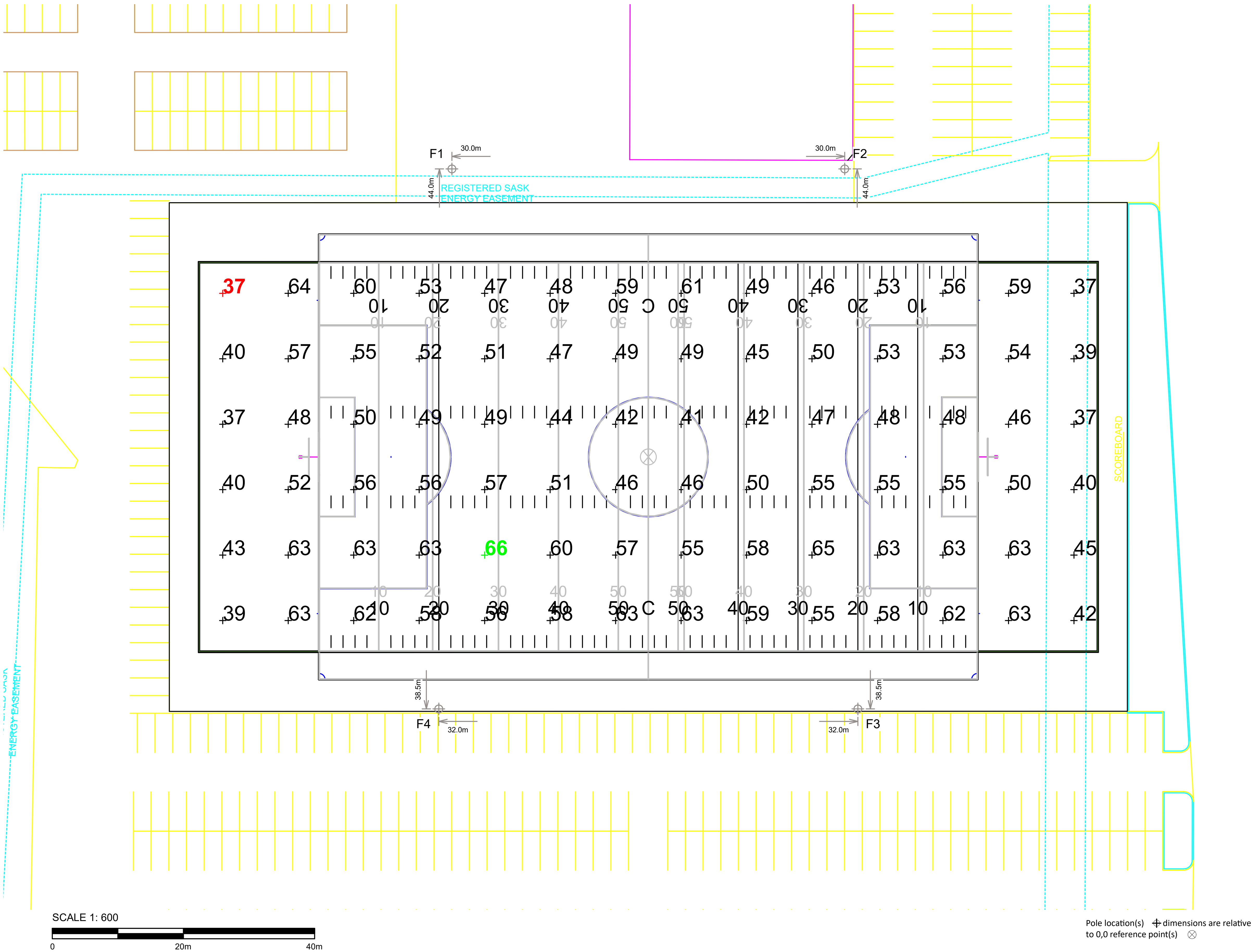
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
4	F1-F4	24.38m	-	4.57m	TLC-BT-675	2	2	0
				24.38m	TLC-LED-1150	13	13	0
4	TOTALS					60	60	0



Multi-Sport Field

Saskatoon,SK

GRID SUMMARY

Name:	Football
Size:	137.2m x 59.4m
Spacing:	10.0m x 10.0m
Height:	1.0m above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Entire Grid
Guaranteed Average:	**50**
Scan Average:	52.25
Maximum:	66
Minimum:	37
Avg / Min:	1.42
Max / Min:	**1.78**
UG (adjacent pts):	1.73
CU:	0.70
No. of Points:	84

LUMINAIRE INFORMATION

Color / CRI:	5700K - 75 CRI
Luminaire Output:	48,000 / 121,000 lumens
No. of Luminaires:	**60**
Total Load:	65.2 kW

Lumen Maintenance

Luminaire Type	L90 hrs	L80 hrs	L70 hrs
TLC-BT-675	>51,000	>51,000	>51,000
TLC-LED-1150	>51,000	>51,000	>51,000

Reported per TM-21-11. See luminaire datasheet for details.

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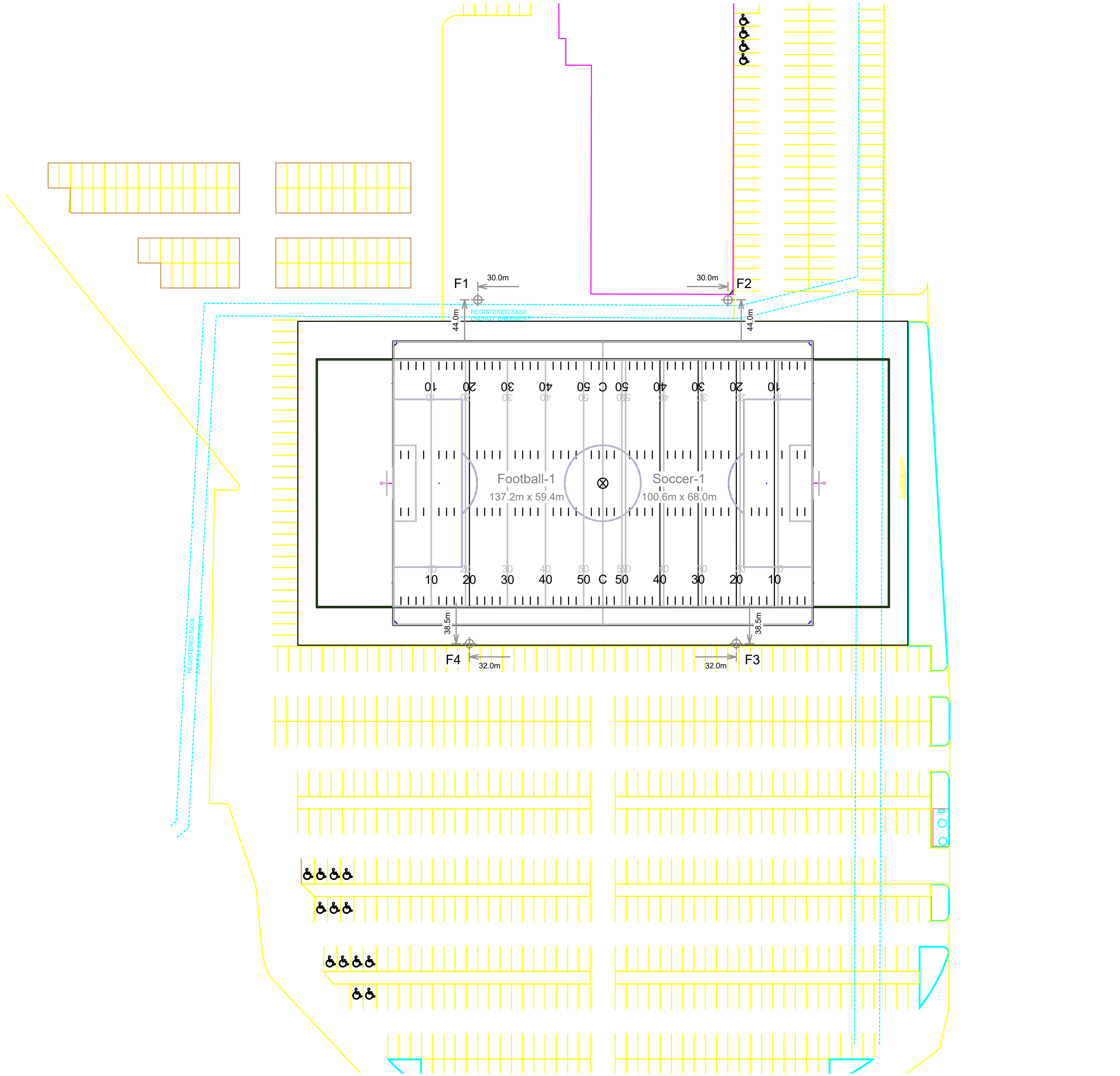
Multi-Sport Field

Saskatoon,SK



SCALE 1 : 1000

0 20m 40m

EQUIPMENT LAYOUT

INCLUDES:

· Football-1
· Soccer-1

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

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EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires		
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE
4	F1-F4	24.38m	-	4.57m 24.38m	TLC-BT-675 TLC-LED-1150	2 13
4	TOTALS					60

SINGLE LUMINAIRE AMPERAGE DRAW CHART

Ballast Specifications (.90 min power factor)	Line Amperage Per Luminaire (max draw)						
Single Phase Voltage	208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	380 (60)	480 (60)
TLC-BT-675	4.0	3.8	3.5	3.0	2.4	2.2	1.8
TLC-LED-1150	6.8	6.5	5.9	5.1	4.1	3.7	3.0

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

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