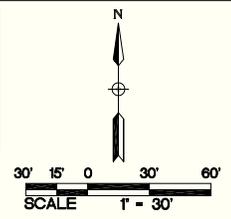


**PROPOSED PLAN SYMBOLS**

CONSTRUCTION LIMITS	---
SILTATION FENCE	---X---
PROPERTY LINE	---
SAWCUT LINE (APPROX.)	---
ROCK CONSTRUCTION ENTRANCE	---X---
BITUMINOUS REMOVAL	[Hatched pattern]
CONCRETE REMOVAL	[Hatched pattern]
PIPE REMOVAL	[Hatched pattern]
CURB REMOVAL	[Hatched pattern]
TREE REMOVAL	[Symbol]

**ABBREVIATIONS**

BDS	Building
BM	Bench Mark
CB	Catch Basin
CONC	Concrete
DIP	Ductile Iron Pipe
ELEV	Elevation
EX	Excavating
FFE	Finished Floor Elevation
INW	Inlet
MAX	Maximum
MIN	Minimum
PVC	Polyvinyl Chloride
RCP	Reinforced Concrete Pipe



**NOTE:**  
STORM SEWER INLETS NOT SHOWN ON PLAN MAY RECEIVE RUNOFF FROM CONSTRUCTION ACTIVITIES. INSTALL INLET SEDIMENT PROTECTION PER DETAIL 1/C5.0 ON ALL STORM INLETS THAT MAY RECEIVE RUNOFF.

**KEYED NOTES**

- KEYED NOTES ARE DENOTED BY [Symbol] ON PLAN.
- INSTALL ROCK CONSTRUCTION ENTRANCE. REFER TO DETAIL 4/C5.1.
  - REMOVE CURB AND GUTTER IN ITS ENTIRETY TO THE EXTENT SHOWN. SAWCUT AND REMOVE AT NEAREST JOINT.
  - REMOVE BITUMINOUS PAVEMENT IN ITS ENTIRETY TO THE EXTENTS SHOWN.
  - REMOVE CONCRETE PAVEMENT IN ITS ENTIRETY TO THE EXTENTS SHOWN.
  - REMOVE SANITARY SEWER IN ITS ENTIRETY TO THE EXTENTS SHOWN. FOLLOW ALL CITY OF BLOOMINGTON STANDARDS AND SPECIFICATIONS.
  - REMOVE WATER MAIN, HYDRANTS, AND VALVES IN THEIR ENTIRETY TO THE EXTENTS SHOWN. FOLLOW ALL CITY OF BLOOMINGTON STANDARDS AND SPECIFICATIONS.
  - REMOVE RETAINING WALL IN ITS ENTIRETY.
  - REMOVE WOOD STEPS IN THEIR ENTIRETY.
  - REMOVE BUILDING IN ITS ENTIRETY, INCLUDING EXTERIOR STAIRS, OVERHANGS, FOOTINGS, AND SMALL UTILITIES. COORDINATE REMOVAL OF SMALL UTILITIES WITH LOCAL UTILITY COMPANIES.
  - REMOVE TREE IN ITS ENTIRETY INCLUDING STUMP.
  - REMOVE GROUND LIGHTS AND LIGHT POLE.
  - INSTALL SILT FENCE. REFER TO DETAIL 3/C5.1.
  - INSTALL INLET SEDIMENT PROTECTION, ONLY BASKET OR SACK STYLE IN TRAFFIC AREAS. REFER TO DETAIL 1/C5.0.
  - SAWCUT AND REMOVE BITUMINOUS PAVEMENT IN ITS ENTIRETY TO THE EXTENTS SHOWN.
  - EXISTING BUILDING TO REMAIN. PROTECT AT ALL TIMES.
  - REMOVE NATURAL GAS LINE IN ITS ENTIRETY TO THE EXTENTS SHOWN. FOLLOW ALL CITY OF BLOOMINGTON STANDARDS AND SPECIFICATIONS.
  - REMOVE EXISTING SIGN AND LIGHT POLES.
  - EXISTING DITCH BANK TO BE RECONSTRUCTED. SEE UTILITY PLAN SHEET C3.0 FOR REFERENCE.

**DEMOLITION AND REMOVAL NOTES:**

- PRIOR TO START OF DEMOLITION, ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE INSTALLED BY THE CONTRACTOR AND INSPECTED BY THE CITY OF BLOOMINGTON. ALL SILT FENCES SHALL BE INSTALLED AND INSPECTED PRIOR TO ANY CONSTRUCTION ACTIVITY. SILT FENCES SHALL BE INSTALLED ALONG THE CONTOUR.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THE LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY THE LOCATION, ELEVATION AND MARK ALL EXISTING UTILITIES 48 HOURS BEFORE CONSTRUCTION STARTS. THE ENGINEER, ARCHITECT OR OWNER DOES NOT GUARANTEE THAT ALL THE UTILITIES ARE MAPPED, OR IF MAPPED, ARE SHOWN CORRECTLY. CONTACT GARDNER STATE ONE CALL AT 651-454-0002 FOR FIELD LOCATING EXISTING UTILITIES. CONTACT UTILITY OWNER IF DAMAGE OCCURS DUE TO CONSTRUCTION.
- PRIOR TO START OF CONSTRUCTION, THE CONTRACTOR IS TO CLEARLY IDENTIFY IN THE FIELD THE WETLAND PERIMETERS THAT ARE NOT TO BE IMPACTED SO THAT ENCRoACHMENT OCCURS. AFTER THE PERIMETERS ARE CLEARLY MARKED IN THE FIELD, THE CONTRACTOR SHALL CONTACT NILES MILL CREEK WATERSHED DISTRICT TO CONFIRM AND APPROVE NO ENCRoACHMENT LIMITS.
- THERE MAY BE MISCELLANEOUS ITEMS TO BE REMOVED THAT ARE NOT IDENTIFIED IN THESE PLANS. THE CONTRACTOR SHALL VISIT THE SITE AND REVIEW THE DOCUMENTS TO OBTAIN A CLEAR UNDERSTANDING OF THE INTENDED SCOPE OF WORK.
- PRIOR TO START OF CONSTRUCTION, DISCONNECT ALL GAS AND ELECTRIC SERVICES. COORDINATE DISCONNECTION OF EACH UTILITY WITH THE UTILITY OWNER. REMOVE ALL GAS AND ELECTRIC LINES UNDER PROPOSED BUILDING FOOTPRINT.
- ANY UTILITIES NOT INDICATED FOR REMOVAL OR ABANDONMENT, ARE TO BE PROTECTED AT ALL TIMES.
- EXISTING CURB AND GUTTER IS TO BE REMOVED WITHIN THE SCOPE OF THE PROJECT FROM THE SAW CUT LINES TO THE NEAREST JOINT.
- THE BACKGROUND INFORMATION WAS PREPARED BY SUNDE LAND SURVEYING (952) 881-2455.
- ALL WORK IN THE PUBLIC RIGHT OF WAY IS TO BE COORDINATED WITH THE CITY OF BLOOMINGTON. ROADWAY REPAIRS, BOULEVARD REPAIRS, AND TRAFFIC CONTROL ARE TO BE PER CITY OF BLOOMINGTON STANDARDS AND SPECIFICATIONS.

**GENERAL NOTES:**

- CONCRETE CURB AND GUTTER, PAVEMENT REMOVAL, AND UTILITY REMOVAL LIMITS ARE TO BE COORDINATED WITH THE CITY OF BLOOMINGTON AND UTILITY OWNER. REFER TO ALL CONSTRUCTION DOCUMENTS.
- THE CONTRACTOR SHALL DEVELOP AND IMPLEMENT A TRAFFIC CONTROL PLAN WHILE WORKING WITHIN THE RIGHT-OF-WAY. THE TRAFFIC CONTROL PLAN SHALL BE APPROVED BY THE CITY OF BLOOMINGTON ENGINEERING DEPARTMENT PRIOR TO STREET ENCRoACHMENT.
- CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING AND REVIEW ALL CONSTRUCTION DOCUMENTS AND GEOTECHNICAL REPORTS. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR ITEMS THAT SHOULD HAVE BEEN ANTICIPATED BY PERFORMING THE ABOVE.
- THE ROCK CONSTRUCTION ENTRANCE INDICATED ON THE PLAN IS SHOWN IN AN APPROXIMATE LOCATION. PRIOR TO START OF CONSTRUCTION, THE CONTRACTOR IS TO COORDINATE WITH THE CITY OF BLOOMINGTON FOR THE EXACT ROCK CONSTRUCTION ENTRANCE LOCATION.

**CITY OF BLOOMINGTON NOTES:**

- UTILITY AS-BUILTS MUST BE PROVIDED PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY.
- CONTRACTOR SHALL OBTAIN A PUBLIC WORKS PERMIT FOR OBSTRUCTIONS AND CONCRETE WORK WITHIN THE RIGHT-OF-WAY. PERMIT IS REQUIRED PRIOR TO REMOVALS OR INSTALLATION. CONTACT BRIAN HANSEN (952-563-4543, BHANSEN@BLOOMINGTONMN.GOV) FOR PERMIT INFORMATION.
- CONTRACTOR SHALL OBTAIN A PUBLIC WORKS PERMIT FOR UNDERGROUND WORK WITHIN THE RIGHT-OF-WAY. PERMIT IS REQUIRED PRIOR TO REMOVALS OR INSTALLATION. CONTACT UTILITIES (952-563-4568) FOR PERMIT INFORMATION.
- TEMPORARY STREET SIGNS, LIGHTING, AND ADDRESSES SHALL BE PROVIDED DURING CONSTRUCTION.
- ALL CONSTRUCTION AND POST-CONSTRUCTION PARKING AND STORAGE OF EQUIPMENT AND MATERIALS MUST BE ON-SITE. USE OF PUBLIC STREETS OR PUBLIC RIGHT-OF-WAY FOR PRIVATE CONSTRUCTION PARKING, LOADING/UNLOADING, AND STORAGE WILL NOT BE ALLOWED.
- ALL PUBLIC SIGNALS SHALL NOT BE OBSTRUCTED.
- USE CLASS 52 DIP WATER MAIN FOR PIPE 12-INCHES IN DIAMETER AND SMALLER. A MINIMUM 8 MIL POLYWRAP IS REQUIRED ON ALL DIP.
- TAPS OF LIVE WATER MAINS ARE DONE BY CITY FORCES AND PAID FOR AND COORDINATED WITH THE CONTRACTOR.
- UTILITY AND MECHANICAL CONTRACTORS SHALL COORDINATE INSTALLATION OF WATER SERVICE PIPES, FITTINGS, AND VALVES ALL THE WAY INTO THE BUILDING (I.E. UP TO METERS AND/OR FIRE SERVICE EQUIPMENT) TO ACCOMMODATE CITY INSPECTION AND TESTING. UTILITY AND MECHANICAL CONTRACTORS SHALL COORDINATE INSTALLATION OF SEWER SERVICES ALL THE WAY INTO THE BUILDING TO ACCOMMODATE CITY INSPECTION AND TESTING.
- COMBINATION FIRE AND DOMESTIC SERVICES MUST TERMINATE WITH A THREAD ON FLANGE OR A M/T TO FLANGE ADAPTER.
- ALL COMPONENTS OF THE WATER SYSTEM, UP TO THE WATER METER OR FIRE SERVICE EQUIPMENT MUST UTILIZE PROTECTIVE INTERNAL COATINGS MEETING CURRENT AND/ANNUAL STANDARDS FOR CEMENT MORTAR LINING OR SPECIAL COATINGS. THE USE OF UNLINED OR UNCOATED PIPE IS NOT ALLOWED.
- UTILITY PERMITS ARE REQUIRED FOR CONNECTIONS TO THE PUBLIC STORM, SANITARY, AND WATER SYSTEM. CONTACT UTILITIES (952-963-8777) FOR PERMIT INFORMATION.
- NO BALES ALLOWED FOR INLET PROTECTION AND/OR DITCH CHECKS.

1  
C1.0 DEMOLITION AND EROSION CONTROL PLAN  
1"=30'

Peace Lutheran Church

8600 E. Bush Lake Rd. Bloomington, MN 55438



Project Status

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly licensed professional engineer under the laws of the State of Minnesota.

Joel Maier Registration No. 19181

SEAL

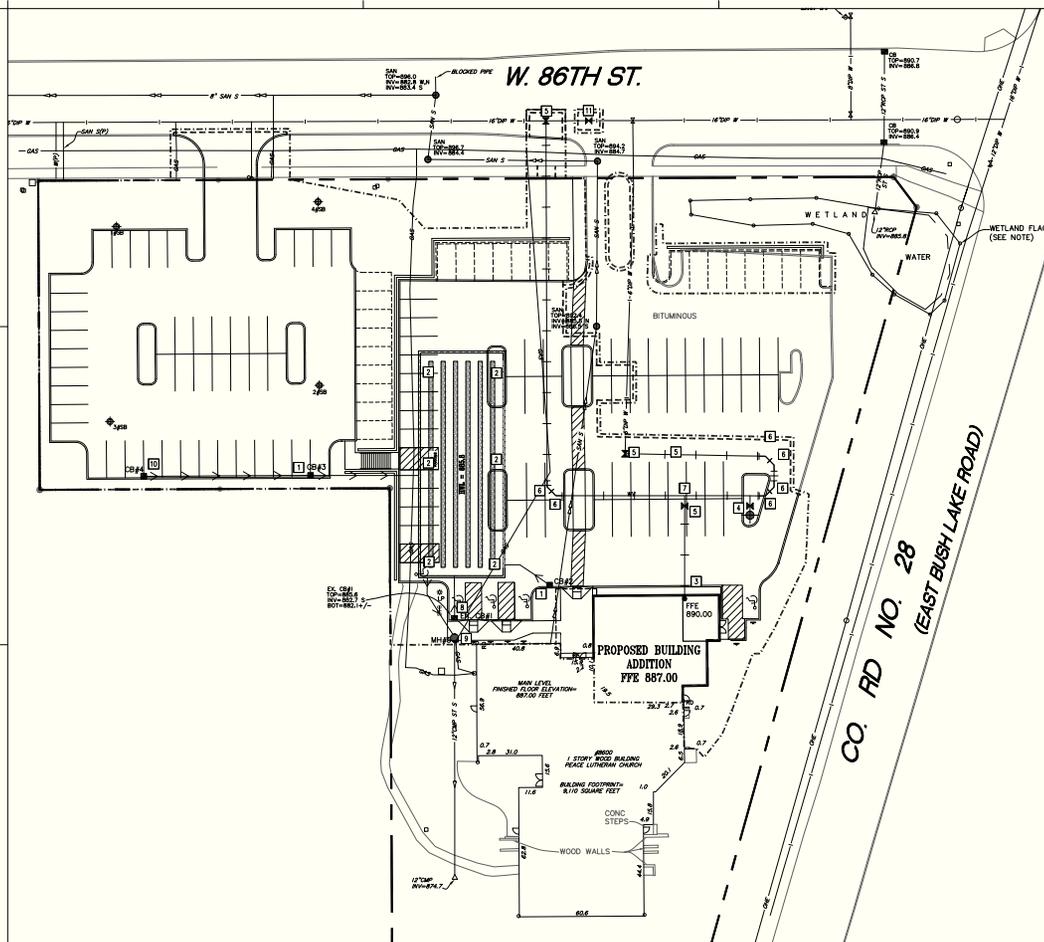
DATE 8/24/2016

PROJ. NO. 16359.00

DEMOLITION AND EROSION CONTROL PLAN

TITLE

SHEET NO. C1.0

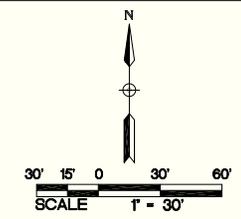


**PROPOSED PLAN SYMBOLS**

CONSTRUCTION LIMITS: ---  
 PROPERTY LINE: - - - -  
 SAWCUT LINE (APPROX.): - · - · -  
 WATER PIPE: ———  
 STORM SEWER: ———  
 RETAINING WALL: ———  
 FIRE HYDRANT: ———  
 GATE VALVE: ———  
 CATCH BASIN: ———  
 MANHOLE: ———

**ABBREVIATIONS**

BLDG Building  
 BM Bench Mark  
 CB Catch Basin  
 CMP Corrugated Metal Pipe  
 CONC Concrete  
 DIP Ductile Iron Pipe  
 ELEV Elevation  
 EX Existing  
 FTE Finished Floor Elevation  
 HDPE High Density Polyethylene  
 INV Invert  
 MAX Maximum  
 MH Manhole  
 MIN Minimum  
 MJ Mechanical Joint  
 PIV Post Indicator Valve  
 PVC Polyvinyl Chloride  
 RCP Reinforced Concrete Pipe  
 RED Reducer  
 RD Roof Drain



- KEYED NOTES**
- KEYED NOTES ARE DENOTED BY [ ] ON PLAN.
- INSTALL SUMP CATCH BASIN. REFER TO DETAIL 2/C3.0.
  - INSTALL INFILTRATION SYSTEM PER DETAIL 2/C3.0. INFILTRATION SYSTEM SHALL HAVE AN INFILTRATION VOLUME OF 3,678 CUBIC FEET A TOTAL VOLUME OF 12,216 CUBIC FEET, AND MEET THE RATE CONTROL REQUIREMENTS INDICATED ON SHEET C3.0. ANY ALTERNATE DESIGNS MUST BE APPROVED BY CIVIL ENGINEER PRIOR TO CONSTRUCTION.
  - STUB 6-INCH DOMESTIC WATER SERVICE INTO PROPOSED BUILDING. PROVIDE THREAD ON FLANGE OR MJ TO FLANGE ADAPTER AT 12-INCH ABOVE FFE. FOLLOW ALL CITY OF BLOOMINGTON STANDARDS AND SPECIFICATIONS.
  - INSTALL FIRE HYDRANT AND GATE VALVE. FOLLOW ALL CITY OF BLOOMINGTON STANDARDS AND SPECIFICATIONS.
  - INSTALL 6-INCH GATE VALVE. FOLLOW ALL CITY OF BLOOMINGTON STANDARDS AND SPECIFICATIONS.
  - INSTALL 6-INCH 45-DEGREE BEND WITH THRUST BLOCKING. FOLLOW ALL CITY OF BLOOMINGTON STANDARDS AND SPECIFICATIONS.
  - INSTALL 6-INCH BY 6-INCH TEE. FOLLOW ALL CITY OF BLOOMINGTON STANDARDS AND SPECIFICATIONS.
  - RECONSTRUCT EXISTING CATCH BASIN FOR PROPOSED PIPE CONNECTION. GROUT SEAL AROUND OPENING. FOLLOW ALL CITY OF BLOOMINGTON STANDARDS AND SPECIFICATIONS.
  - CONSTRUCT MANS OVER EXISTING 12-INCH CMP STORM SEWER.
  - INSTALL CATCH BASIN. REFER TO DETAIL 1/C3.2.
  - INSTALL 18-INCH GATE VALVE UP TO CITY OF BLOOMINGTON'S WATERMAIN BETWEEN WATER SERVICES. FOLLOW ALL CITY OF BLOOMINGTON STANDARDS AND REGULATIONS.

- UTILITY NOTES:**
- COORDINATE SERVICE CONNECTION LOCATIONS AT THE BUILDING WITH THE MECHANICAL CONTRACTOR PRIOR TO CONSTRUCTION. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR UNCOORDINATED WORK.
  - ALL SEWER SERVICE CONNECTIONS WITH LESS THAN 8 FEET OF COVER OVER THE TOP OF PIPE ARE TO BE INSULATED. INSULATION SHALL BE INSTALLED FROM THE CONNECTION OF THE SERVICE AT THE BUILDING TO THE POINT WHICH THE SERVICE ATTAINS 5 FEET OF COVER. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION FROM ARCHITECT OR ENGINEER PRIOR TO INSTALLATION OF INSULATION.
  - PROTECT ALL EXISTING STRUCTURES AND UTILITIES WHICH ARE NOT SCHEDULED TO BE REMOVED.
  - ALL SEWER AND WATER CROSSINGS SHALL HAVE A MINIMUM VERTICAL SEPARATION OF 1.5 FEET AND HORIZONTAL SEPARATION OF 10 FEET FOLLOW ALL HEALTH DEPARTMENT AND CITY OF BLOOMINGTON AND HENNEPIN COUNTY STANDARDS.
  - ALL WATER MAINS SHALL BE DUCTILE IRON PIPE, CLASS 52, UNLESS NOTED OTHERWISE.
  - ALL WATER MAIN SHALL HAVE A MINIMUM DEPTH OF 8 FEET AND A MAXIMUM DEPTH OF 10 FEET OF COVER OVER TOP OF WATER MAIN, VALVES, SERVICES, ETC. FOLLOW ALL CITY OF BLOOMINGTON STANDARDS.
  - MECHANICAL JOINT RESTRAINTS ON ALL WATER MAIN PER CITY OF BLOOMINGTON. PROVIDE MECHANICAL JOINT RESTRAINTS ON ALL BENDS, VALVES, TEES, PLUGS AND HYDRANT LEADS.
  - SANITARY SEWER PIPING SHALL BE SDR 35 PVC UNLESS NOTED OTHERWISE.
  - STORM SEWER PIPING SHALL BE SMOOTH INTERIOR AND ANNUAL EXTERIOR CORRUGATED HIGH DENSITY POLYETHYLENE (HDPE), UNLESS NOTED OTHERWISE. HOPE PIPE SHALL CONFORM TO ASTM F2306.
  - CONTRACTORS ARE TO COORDINATE ALL WORK WITH GAS, ELECTRIC, TELEVISION AND TELEPHONE COMPANIES PRIOR TO START OF CONSTRUCTION.
  - ALL PORTIONS OF THE STORM SEWER SYSTEM LOCATED WITHIN 10- FEET OF THE BUILDING OR WATER SERVICE LINE SHALL BE TESTED IN ACCORDANCE WITH MN PLUMBING CODE.
  - ALL JOINTS AND CONNECTIONS IN THE STORM SEWER SYSTEM SHALL BE GAS TIGHT OR WATER TIGHT IN ACCORDANCE TO MN PLUMBING CODE. APPROVED RESILIENT RUBBER JOINTS MUST BE USED TO MAKE WATER TIGHT CONNECTIONS TO MANHOLES, CATCH BASINS, AND OTHER STRUCTURES. GROUT RISERS ARE AN ACCEPTABLE ALTERNATIVE. CEMENT MORTAR JOINTS ARE PERMITTED ONLY FOR REPAIRS AND CONNECTIONS OF EXISTING LINES CONSTRUCTED WITH SUCH JOINTS.

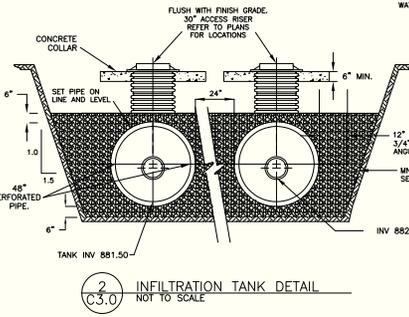
- UTILITY NOTES FOR WORK IN PUBLIC RIGHT-OF-WAY:**
- FOLLOW ALL CITY OF BLOOMINGTON STANDARDS AND SPECIFICATIONS.
  - PRIOR TO CONSTRUCTION, CONTRACTORS ARE TO COORDINATE ALL WORK WITHIN RIGHT OF WAY AND OBTAIN ALL APPLICABLE PERMITS.

- CITY OF BLOOMINGTON NOTES:**
- UTILITY AS-BUILTS MUST BE PROVIDED PRIOR TO OBTAINING CERTIFICATE OF OCCUPANCY.
  - CONTRACTOR SHALL OBTAIN A PUBLIC WORKS PERMIT FOR OBSTRUCTIONS AND CONCRETE WORK WITHIN THE RIGHT-OF-WAY. PERMIT IS REQUIRED PRIOR TO REMOVALS OR INSTALLATION. CONTACT BRIAN HANSEN (952-563-4543, BHANSEN@BLOOMINGTONMN.GOV) FOR PERMIT INFORMATION.
  - CONTRACTOR SHALL OBTAIN A PUBLIC WORKS PERMIT FOR UNDERGROUND WORK WITHIN THE RIGHT-OF-WAY. PERMIT IS REQUIRED PRIOR TO REMOVALS OR INSTALLATION. CONTACT UTILITIES (952-563-4548) FOR PERMIT INFORMATION.
  - TEMPORARY STREET SIGNS, LIGHTING, AND ADDRESSES SHALL BE PROVIDED DURING CONSTRUCTION.
  - ALL CONSTRUCTION AND POST-CONSTRUCTION PARKING AND STORAGE OF EQUIPMENT AND MATERIALS MUST BE ON-SITE. USE OF PUBLIC STREETS OR PUBLIC RIGHT-OF-WAY FOR PRIVATE CONSTRUCTION PARKING, LOADING/UNLOADING, AND STORAGE WILL NOT BE ALLOWED.
  - ALL PUBLIC SIDEWALKS SHALL NOT BE OBSTRUCTED.
  - USE CLASS 52 DIP WATER MAIN FOR PIPE 12-INCHES IN DIAMETER AND SMALLER. A MINIMUM 8 MIL POLYWRAP IS REQUIRED ON ALL DIP.
  - TAPS OF LIVE WATER MAINS ARE DONE BY CITY FORCES AND PAID FOR AND COORDINATED WITH THE CONTRACTOR.
  - UTILITY AND MECHANICAL CONTRACTORS SHALL COORDINATE INSTALLATION OF WATER SERVICE PIPES, FITTINGS, AND VALVES ALL THE WAY INTO THE BUILDING (I.E. UP TO METERS AND/OR FIRE SERVICE EQUIPMENT) TO ACCOMMODATE CITY INSPECTION AND TESTING. UTILITY AND MECHANICAL CONTRACTORS SHALL COORDINATE INSTALLATION OF SEWER SERVICES ALL THE WAY INTO THE BUILDING TO ACCOMMODATE CITY INSPECTION AND TESTING.
  - COMBINATION FIRE AND DOMESTIC SERVICES MUST TERMINATE WITH A THREAD ON FLANGE OR A MJ TO FLANGE ADAPTER.
  - ALL COMPONENTS OF THE WATER SYSTEM, UP TO THE WATER METER OR FIRE SERVICE EQUIPMENT MUST UTILIZE PROTECTIVE INTERNAL COATINGS MEETING CURRENT AND/FUTURE STANDARDS FOR CEMENT MORTAR LINING OR SPECIAL COATINGS. THE USE OF UNLINED OR UNCOATED PIPE IS NOT ALLOWED.
  - UTILITY PERMITS ARE REQUIRED FOR CONNECTIONS TO THE PUBLIC STORM, SANITARY, AND WATER SYSTEM. CONTACT UTILITIES (952-563-8777) FOR PERMIT INFORMATION.

1 UTILITY PLAN  
C3.0 1'-30'

STORM SEWER TABLE

STRUCTURE IDENTIFICATION	STRUCTURE DIMENSION (INCHES)	NEENAH CASTING	TOP ELEVATION	INVERT ELEVATION	PIPE LENGTH, DIAMETER, SLOPE & NEXT UPSTREAM STRUCTURE
EX. CB #1	NA	NA	885.60	S. 882.70 N. 882.70 W. 882.45 SUMP = 882.18	22 L.F. OF 12" HDPE PIPE @ 1.00%, TREATMENT TANK
CB #2	48	R-3067	885.90	E. 884.95 W. 884.95 SUMP = 881.95	81 L.F. OF 12" RCP @ 1.00%, CB #4
CB #3	48	R-3067	885.50	E. 885.76	
CB #4	48	R-3067	886.70	S. 882.90 E. 882.20 W. 883.50 INV. TANK 881.50	25 L.F. OF 12" HDPE PIPE @ 1.00%, CB #2 09 L.F. OF 12" HDPE PIPE @ 5.00%, CB #3
TREATMENT TANK	NA	NA	NA	S. 882.50 NW. 882.50	31 L.F. OF 12" CMP @ 1.00%, TREATMENT TANK
MH #5	48		886.90		



- UTILIZE CARE WHEN LOWERING UNIT INTO THE TRENCH. HANDLE USING NYLON SLINGS AND TWO PICK POINTS.
  - PLACE BAGGERS AROUND THE UNIT IN UNIFORM 8"-12" LIFTS, COMPACTED TO 98% SD.
  - WHEN THE UNIT CONSISTS OF 2 SECTIONS, PLACE THE DOWNSTREAM SECTION FIRST. CONNECT AND HOME THE REMAINING SECTIONS.
  - ALL CONNECTION POINTS ARE TO BE SOIL PROOF. ACCESS RISERS AND CONCRETE COLLARS SHALL BE DESIGNED TO WITHSTAND HS25 LOADING.
- ROW LENGTH: 100 FEET  
 NUMBER OF ROWS: 7  
 NUMBER OF HEADERS: 2  
 INFILTRATION VOLUME: 5,489 CUBIC FEET  
 TOTAL STORAGE VOLUME: 14,000 CUBIC FEET

2 INFILTRATION TANK DETAIL  
C3.0 NOT TO SCALE

Peace Lutheran Church

8600 E. Bush Lake Rd. Bloomington, MN 55438



Project Status

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly licensed professional engineer under the laws of the State of Minnesota

Joel Maser Registration No. 19181

SEAL

DATE 8/24/2016

PROJ. NO. 16359.00

UTILITY PLAN

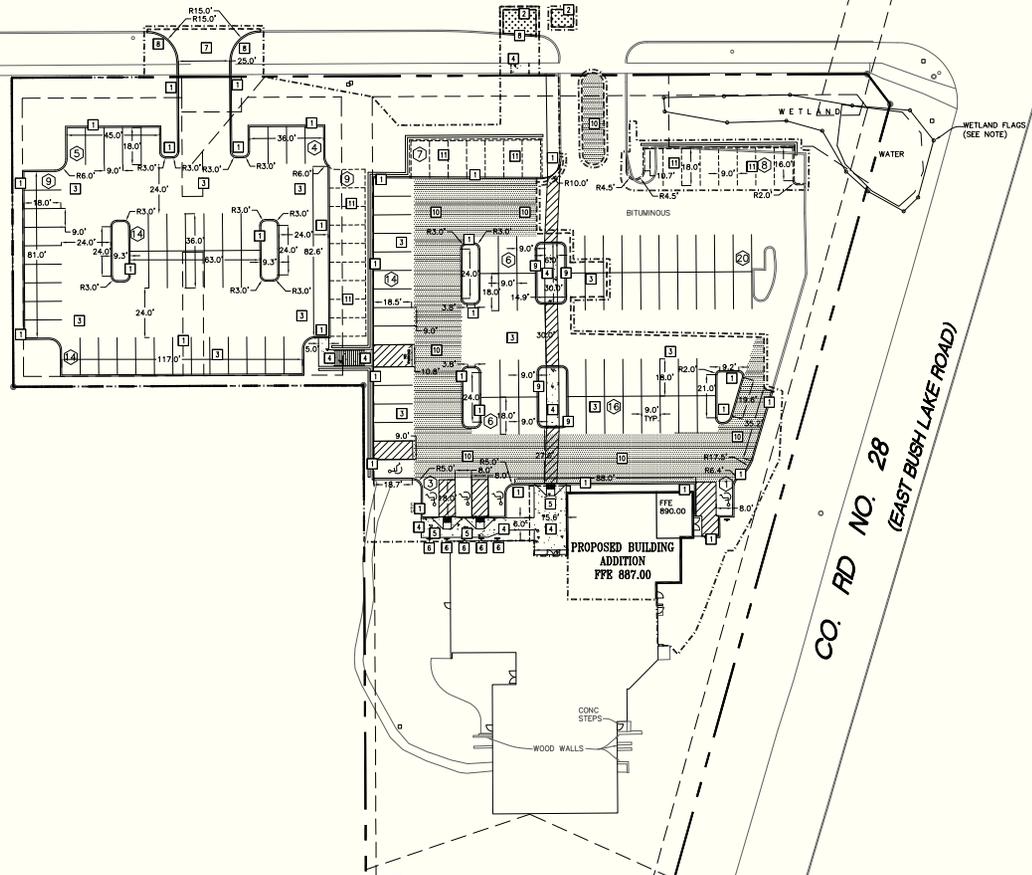
TITLE

C3.0

SHEET NO.

W. 86TH ST.

CO. RD NO. 28  
(EAST BUSH LAKE ROAD)



1  
C4.0  
PAVING AND GEOMETRIC PLAN  
1" = 30'

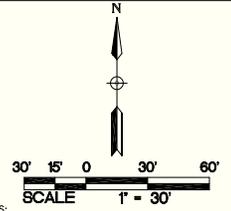
PROPOSED PLAN SYMBOLS	
CONSTRUCTION LIMITS	---
PROPERTY LINE	---
SAWCUT LINE (APPROX.)	- - - -
RETAINING WALL	▬
MEDIUM-DUTY BITUMINOUS PAVEMENT	▨
CONCRETE PAVEMENT/SIDWALK	▩
BLOOMINGTON CITY STREET PAVEMENT	▧
FLAT CURB AND GUTTER	▬
PEDESTRIAN CURB RAMP	▬
ACCESSIBLE PARKING SYMBOL	♿
SIGN	Ⓢ
PARKING STALL COUNT	Ⓢ

\*NOTE: CONSTRUCTION LIMITS ARE ANTICIPATED TO BE PROPERTY LINE UNLESS OTHERWISE SHOWN.

KEYED NOTES ARE DENOTED BY [ ] ON PLAN.

- INSTALL B612 CONCRETE CURB AND GUTTER. REFER TO DETAIL 7/C5.1
- REPAIR STREET BY COMPLYING WITH BLOOMINGTON'S CITY STREET IMPROVEMENT POLICY. REFER TO DETAIL 2/C5.2.
- INSTALL LIGHT-DUTY BITUMINOUS PAVEMENT. REFER TO DETAIL 9/C5.1.
- INSTALL CONCRETE WALK. REFER TO DETAIL 11/C5.1, REFER TO LANDSCAPE PLANS FOR CONCRETE FINISH AND JOINTING.
- INSTALL PEDESTRIAN CURB RAMP. REFER TO DETAIL 2/C5.0, REFER TO MVI/DOT STANDARD PLAN 3-297.250 AND MN/DOT STANDARD PLATE 7038.
- INSTALL ACCESSIBLE PARKING AND NO PARKING SIGNS. REFER TO DETAIL 5/C5.1.
- INSTALL NON-RESIDENTIAL CONCRETE DRIVEWAY APRON. REFER TO DETAIL 1/C5.1.
- INSTALL B618 CURB AND GUTTER IN THE RIGHT-OF-WAY. REFER TO DETAIL 2/C5.1.
- INSTALL FLAT CONCRETE CURB. REFER TO DETAIL 6/C5.1.
- INSTALL MEDIUM-DUTY BITUMINOUS PAVEMENT. REFER TO DETAIL 10/C5.1.
- PROOF OF PARKING.

ABBREVIATIONS	
BLDG	Building
BM	Bench Mark
EW	Bottom of Wall
CONC	Concrete
ELEV	Elevation
EX	Existing
FFE	Finished Floor Elevation
MAX	Maximum
MIN	Minimum
R	Radius
TW	Top of Wall
Typ.	Typical



- GENERAL NOTES:
- ALL DIMENSIONS ARE TO FACE OF CURB UNLESS NOTED OTHERWISE.
  - ALL CURB AND GUTTER IS TO BE B612 CONCRETE CURB AND GUTTER UNLESS NOTED OTHERWISE.
  - NO SIDEWALK IS TO HAVE MORE THAN A 2% CROSS SLOPE OR MORE THAN A 5% LONGITUDINAL SLOPE.
  - REFER TO ARCHITECTURAL PLANS FOR PROPOSED BUILDING LAYOUT.
  - FOLLOW ALL CITY OF BLOOMINGTON AND HENNEPIN COUNTY RULES, REGULATIONS AND SPECIFICATIONS WHEN WORKING IN PUBLIC RIGHT OF WAY.
  - NO PONDING OF WATER OR ABRUPT TRANSITIONS WILL BE ALLOWED WHERE NEW PAVEMENT/CURB/SIDWALK MATCHES INTO EXISTING PAVEMENT/CURB/SIDWALK.
  - ALL PARKING STALLS, EXCEPT ACCESSIBLE STALLS, ARE TO BE 9 FEET WIDE BY 20 FEET LONG.
  - THE CONTRACTOR IS TO CONTACT THE CITY OF BLOOMINGTON FIRE MARSHAL FOR THE EXACT PLACEMENT OF FIRE LANES, YELLOW-PAINTED CURBS AND NO PARKING AREAS FOR FIRE PROTECTION PURPOSES.

- PAVING NOTES:
- REFER TO STRUCTURAL PLANS FOR STOOB DETAILS. ALL WALKS ARE TO BE CENTERED ON THE DOORS.
  - INSTALL APPROPRIATE EXPANSION MATERIAL WHERE CONCRETE IS ADJACENT TO BUILDING FACE.
  - SAWCUT AND MATCH NEW BITUMINOUS PAVEMENT INTO EXISTING PAVEMENT. NO ABRUPT GRADE TRANSITIONS OR PONDING OF WATER WILL BE ALLOWED.
  - MATCH NEW CONCRETE CURB AND GUTTER INTO EXISTING. FOLLOW ALL CITY OF BLOOMINGTON STANDARDS AND SPECIFICATIONS FOR CURB TYPE, MATERIAL AND INSTALLATION METHODS.
  - SAWCUT EXISTING BITUMINOUS PAVEMENT AND CURB AND GUTTER TO NEAREST JOINT. COORDINATE REMOVAL LIMITS WITH SITE DEMOLITION CONTRACTOR AND CONSTRUCTION MANAGER. INSTALL DRIVE ENTRANCE FOR CITY OF BLOOMINGTON STANDARDS AND SPECIFICATIONS. FOLLOW ALL CITY OF BLOOMINGTON AND HENNEPIN COUNTY REQUIREMENTS FOR TRAFFIC CONTROL.

- CITY OF BLOOMINGTON NOTES:
- UTILITY AS-BUILTS MUST BE PROVIDED PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY.
  - CONTRACTOR SHALL OBTAIN A PUBLIC WORKS PERMIT FOR OBSTRUCTIONS AND CONCRETE WORK WITHIN THE RIGHT-OF-WAY PERMIT IS REQUIRED PRIOR TO REMOVALS OR INSTALLATION. CONTACT BRIAN HANSEN (952-563-4543, BHANSEN@BLOOMINGTONMN.GOV) FOR PERMIT INFORMATION.
  - CONTRACTOR SHALL OBTAIN A PUBLIC WORKS PERMIT FOR UNDERGROUND WORK WITHIN THE RIGHT-OF-WAY PERMIT IS REQUIRED PRIOR TO REMOVALS OR INSTALLATION. CONTACT UTILITIES (952-563-4568) FOR PERMIT INFORMATION.
  - TEMPORARY STREET SIGNS, LIGHTING, AND ADDRESSES SHALL BE PROVIDED DURING CONSTRUCTION.
  - ALL CONSTRUCTION AND POST-CONSTRUCTION PARKING AND STORAGE OF EQUIPMENT AND MATERIALS MUST BE ON-SITE. USE OF PUBLIC STREETS AND PUBLIC RIGHT-OF-WAY FOR PRIVATE CONSTRUCTION PARKING, LOADING/UNLOADING, AND STORAGE WILL NOT BE ALLOWED.
  - ALL PUBLIC SIDEWALKS SHALL NOT BE OBSTRUCTED.
  - USE CLASS 52 DIP WATER MAIN FOR PIPE 12-INCHES IN DIAMETER AND SMALLER. A MINIMUM 8 MIL POLYWRAP IS REQUIRED ON ALL DIPS.
  - TAPS OF LIVE WATER MAINS ARE DONE BY CITY FORCES AND PAID FOR AND COORDINATED WITH THE CONTRACTOR.
  - UTILITY AND MECHANICAL CONTRACTORS SHALL COORDINATE INSTALLATION OF WATER SERVICE PIPES, FITTINGS, AND VALVES ALL THE WAY INTO THE BUILDING (I.E. UP TO METERS AND/OR FIRE SERVICE EQUIPMENT) TO ACCOMMODATE CITY INSPECTION AND TESTING. UTILITY AND MECHANICAL CONTRACTORS SHALL COORDINATE INSTALLATION OF SEWER SERVICES ALL THE WAY INTO THE BUILDING TO ACCOMMODATE CITY INSPECTION AND TESTING.
  - COMBINATION FIRE AND DOMESTIC SERVICES MUST TERMINATE WITH A THREAD ON FLANGE OR A MI TO FLANGE ADAPTER.
  - ALL COMPONENTS OF THE WATER SYSTEM, UP TO THE WATER METER OR FIRE SERVICE EQUIPMENT MUST UTILIZE PROTECTIVE INTERNAL COATINGS MEETING CURRENT AND/OR AWWA STANDARDS FOR CEMENT MORTAR LINING OR SPECIAL COATINGS. THE USE OF UNJOINED OR UNCOATED PIPE IS NOT ALLOWED.
  - UTILITY PERMITS ARE REQUIRED FOR CONNECTIONS TO THE PUBLIC STORM, SANITARY, AND WATER SYSTEM. CONTACT UTILITIES (952-563-8777) FOR PERMIT INFORMATION.
  - ALL PARKING STALL STRIPING MUST BE PAINTED WHITE.

Peace Lutheran Church

8600 E. Bush Lake Rd. Bloomington, MN 55438



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Project Status

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly licensed professional engineer under the laws of the State of Minnesota

Joel Maier 19181  
Registration No.

SEAL

DATE 8/24/2016

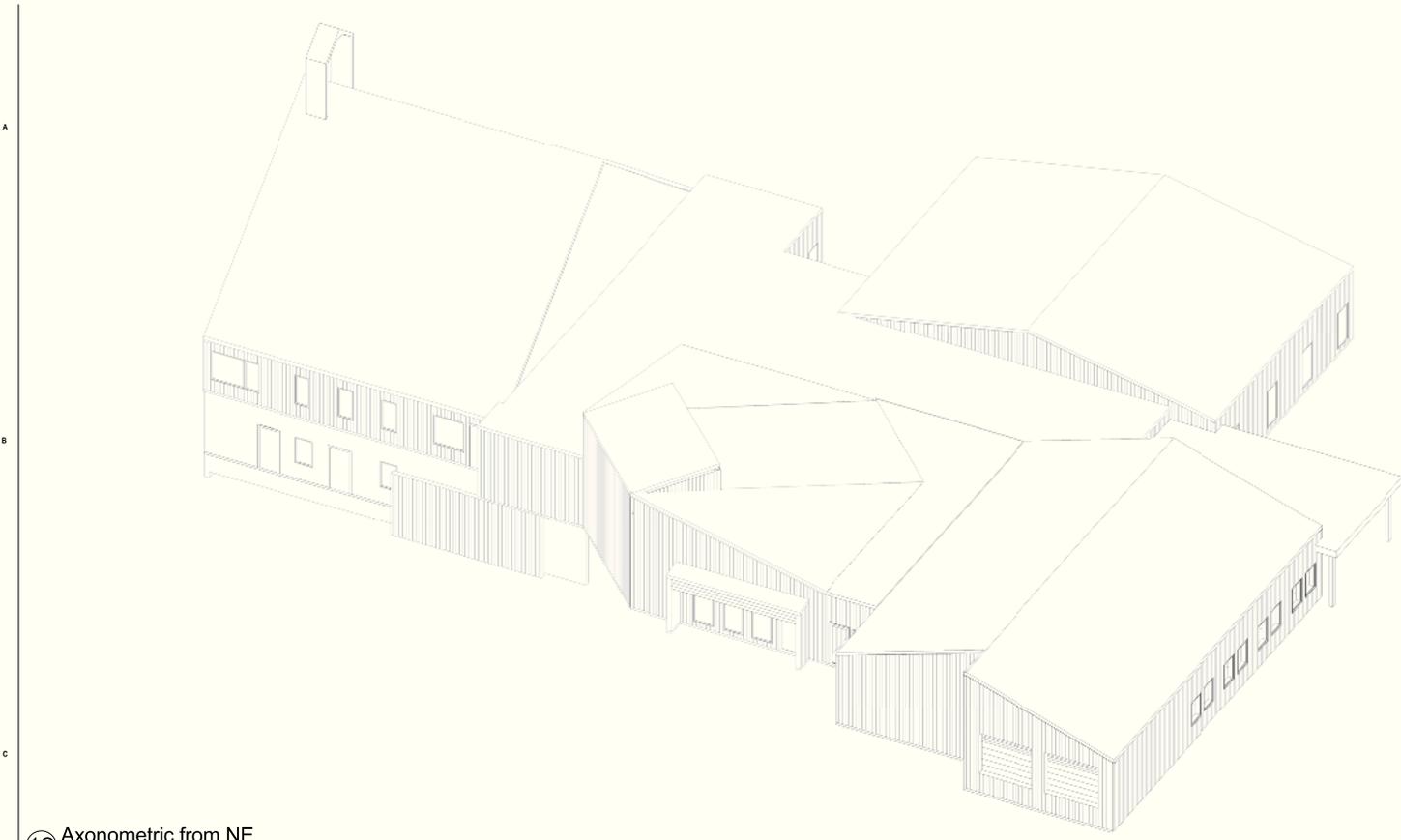
PROJ. NO. 16359.00

PAVING AND GEOMETRIC PLAN

TITLE

SHEET NO. C4.0

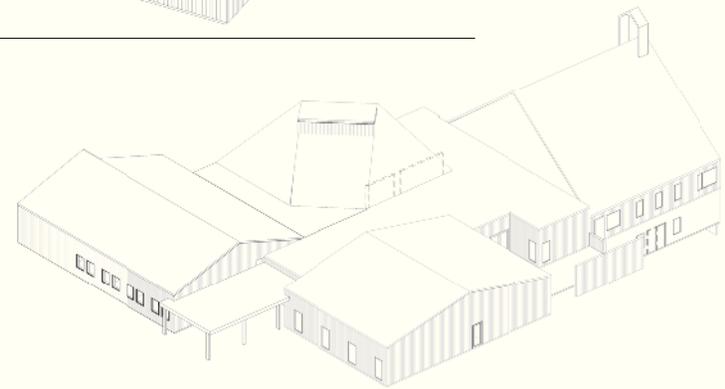
1 2 3 4 5



1C Axonometric from NE



1D Entry Canopy



4D Axonometric from NW

PROJECT  
**Peace Lutheran Church**

CLIENT  
Peace Lutheran Church

ARCHITECT  
**Alliance**  
612.874.4100

LANDSCAPE ARCHITECT  
**Calyx Design Group**  
651.788.9018

CIVIL STRUCTURAL ENGINEER  
**BKBM Engineers**  
763.843.0420

MECHANICAL, ELECTRICAL,  
PLUMBING ENGINEERS  
**Emanuelson Podas**  
952.930.0050

Food Service Consultant  
**Rippe & Associates**  
952.933.0313

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FOR  
BY  
NAME  
DATE  
REG. NO. **Issue Date**

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DATE **Author  
Checker  
06/10/16**

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Sheet **g0.03** Axonometric Views

1

2

3

4

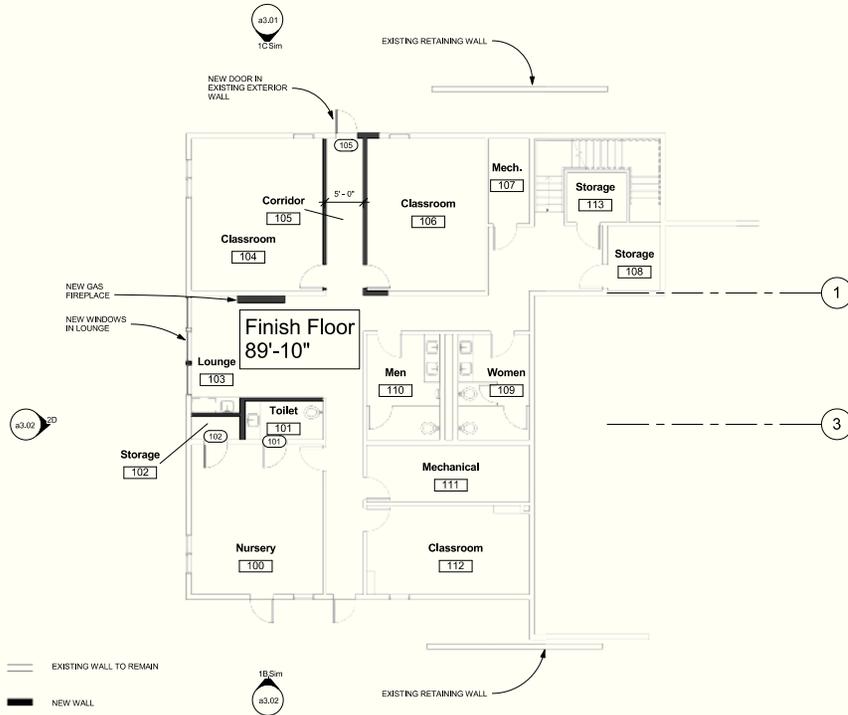
5

A

B

C

D



EXISTING WALL TO REMAIN

NEW WALL

Wall Legend

1/8" = 1'-0"



NORTH

1E Lower Level Floor Plan  
1/8" = 1'-0"

PROJECT

**Peace Lutheran Church**

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Author

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08/24/16

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**ALLIANCE**

Lower Level Floor Plan

SHEET  
**a1.B1**

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**Peace Lutheran Church**

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Peace Lutheran Church

ARCHITECT  
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DRAWN  
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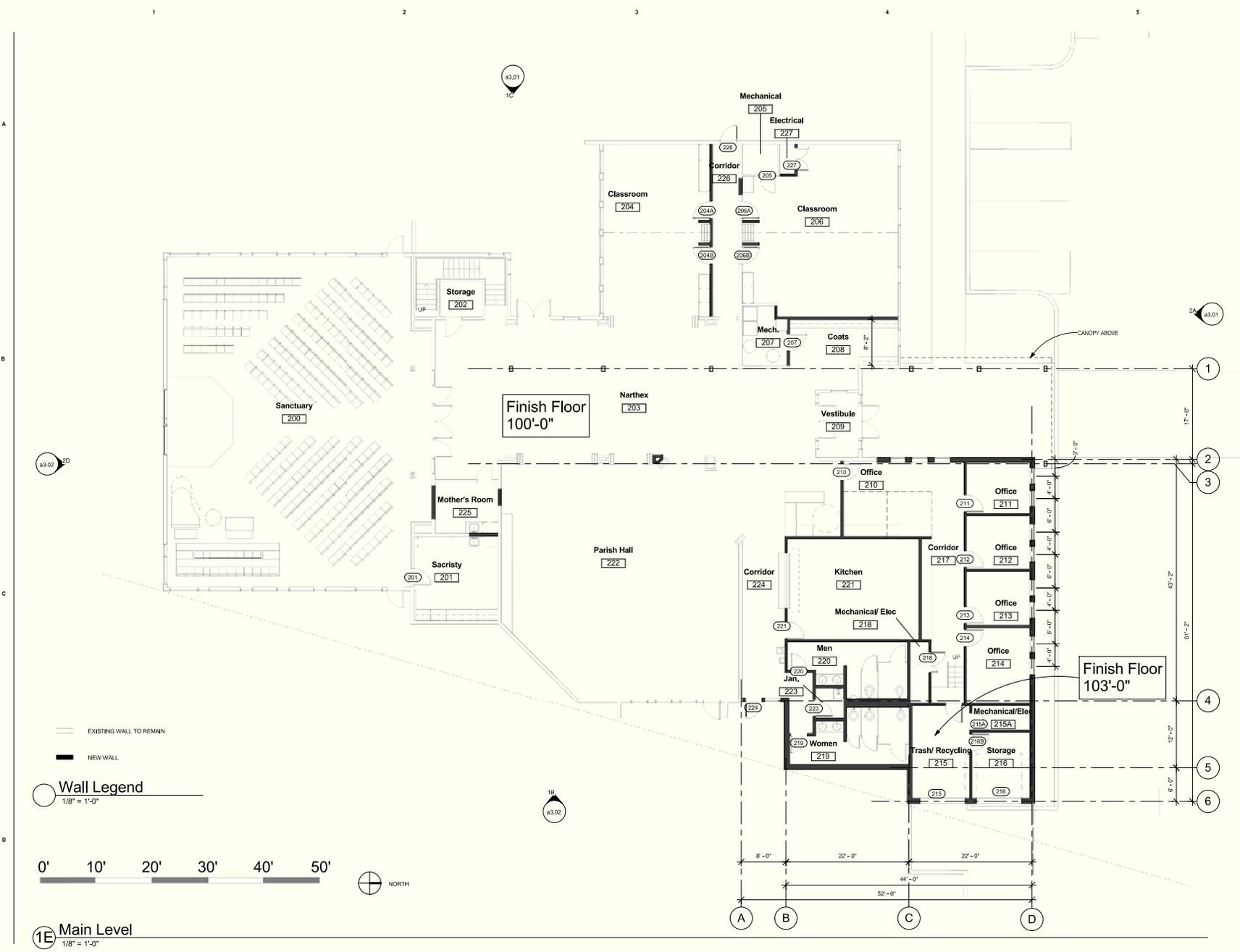
Author  
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08/24/16

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Main Level Floor Plan

SHEET  
**a1.01**



EXISTING WALL TO REMAIN

NEW WALL

Wall Legend  
1/8" = 1'-0"

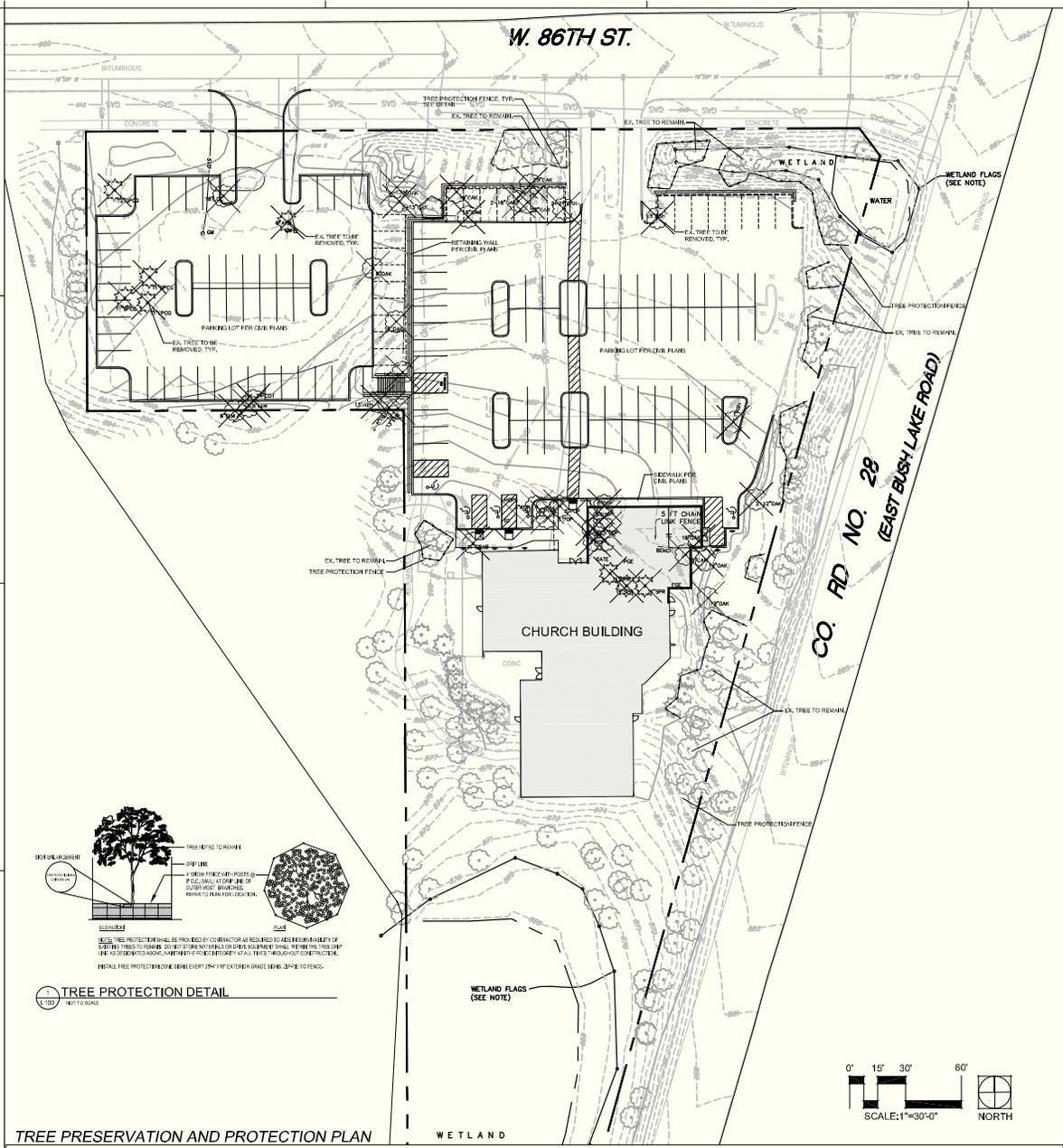
0' 10' 20' 30' 40' 50'

NORTH

1E Main Level  
1/8" = 1'-0"







**Landscape Symbols Legend:**

-  Existing Tree to Remain  
(See Civil Plans for Tree Removals)
-  Existing Tree to Be Removed  
(See Civil Plans for Tree Removals)

**Notes:**

1. Refer to Sheet L102 for Details, Notes, and Requirements.
2. See Sheet L101 for Proposed Landscape Layout
3. Refer to Civil Engineer's plans for grading, drainage, and site plan Information.
4. Refer to specifications manual for additional requirements regarding these plans.

**Tree Preservation and Protection Notes:**

- Existing boundary, location, topographic, and utility information shown on this plan is from a field survey by Sundt Land Surveys.
- Do not begin tree clearing work until tree protection measures are in place and to the permit approval of the City of Bloomington Forester has been granted.
  - **Critical Root Zone:**  
Install high density polyethylene safety fence, 4 ft. high, International orange, at the Drip Line or at the Critical Root Zone whichever is greater. If trees to be preserved per detail, prior to commencement of earthwork activity, field-staking of the fence location(s) subject to City of Bloomington approval.
  - Where silt fence and proposed tree protection fence overlap, place the tree protection fence on the outside of the silt fence, double-staked at the break-point.
  - Refer to Tree Protection Detail 1.
  - The contractor shall prune the canopy of existing trees to remain where the canopy is in jeopardy of damage due to the new improvements shown. It is recommended that the contractor hire a certified arborist to perform the pruning. Any branches broken during construction shall be immediately trimmed and wounds painted to prevent further damage.
  - Perform work in accordance with the laws, ordinances, rules, regulations, and orders of public authority having jurisdiction. Secure and pay for permits, governmental fees and licenses necessary for the proper execution of the demolition work.
  - Provide protective coverings and enclosures as necessary to prevent damage to existing work that is to remain. Existing work to remain may include items such as trees, shrubs, lawns, sidewalks, drives, curbs, utilities, buildings and/or other structures on or adjacent to the demolition site. Provide temporary fences and barricades as required for the safe and proper execution of the work and the protection of persons and property.
  - Remove debris, waste, and rubbish promptly from the site. On-site burial of debris is not permitted. Burn no debris on the site. Salvage material not otherwise indicated to be reused shall become the Contractor's property and is to be removed promptly from the site and disposed of in strict accordance with all applicable laws, regulations, and/or statutes.
  - Buildings, features, surfaces, and other descriptive references shown on this drawing are for informational purposes only. Field verify all information relevant to the project prior to proceeding with the work. Visit the site and determine all site conditions and hazards.
  - This plan is a guide as to the anticipated amount of disturbance expected due to proposed improvements. The contractor is expected to take all necessary precautions to ensure trees noted to remain are not damaged during construction. Do not store material or drive within the drip line of existing trees to remain. Be aware of overhead branches for clearance of material and equipment.
  - This plan is not a guarantee that existing trees will survive during/post construction, but rather a guide to help assure their protection and greatest chances of survival at the surface level. Further protection measures outside this scope could involve ecologists, foresters and arborists.
  - Notify the Owner's Representative and Engineer when tree protection fencing is taken down to perform work in conjunction with the new improvements noted in this plan set. The contractor is responsible for re-erecting the tree protection fence immediately after the work is complete, when ever possible.
  - Trees shown as existing to remain (the preserved) that are damaged / killed as a result of construction activities are subject to replacement per the City of Bloomington Tree Replacement penalty. Replacement trees are to be paid for at no additional expense to the Owner.
  - Tree Trimming: Trim branches of existing trees to remain with branches overhanging the work zone to a height of no less than 15' above grade. General contractor shall hire a state certified arborist to trim trees and shall not trim Oaks up during prime oak-leaf season, per city code. Do not disturb Oaks between April-July.

**cdg**  
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**Peace Lutheran Church**

8600 E. Bush Lake Rd. Bloomington, MN 55438

Project Status  
**PRELIMINARY NOT FOR CONSTRUCTION**  
 PLANNING COMMISSION SUBMISSION 08.24.16

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48084  
 Ben Harberg Registration No.  
 SEAL

DATE 8/24/2016

PROJ. NO. 1511.00

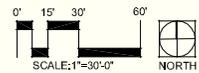
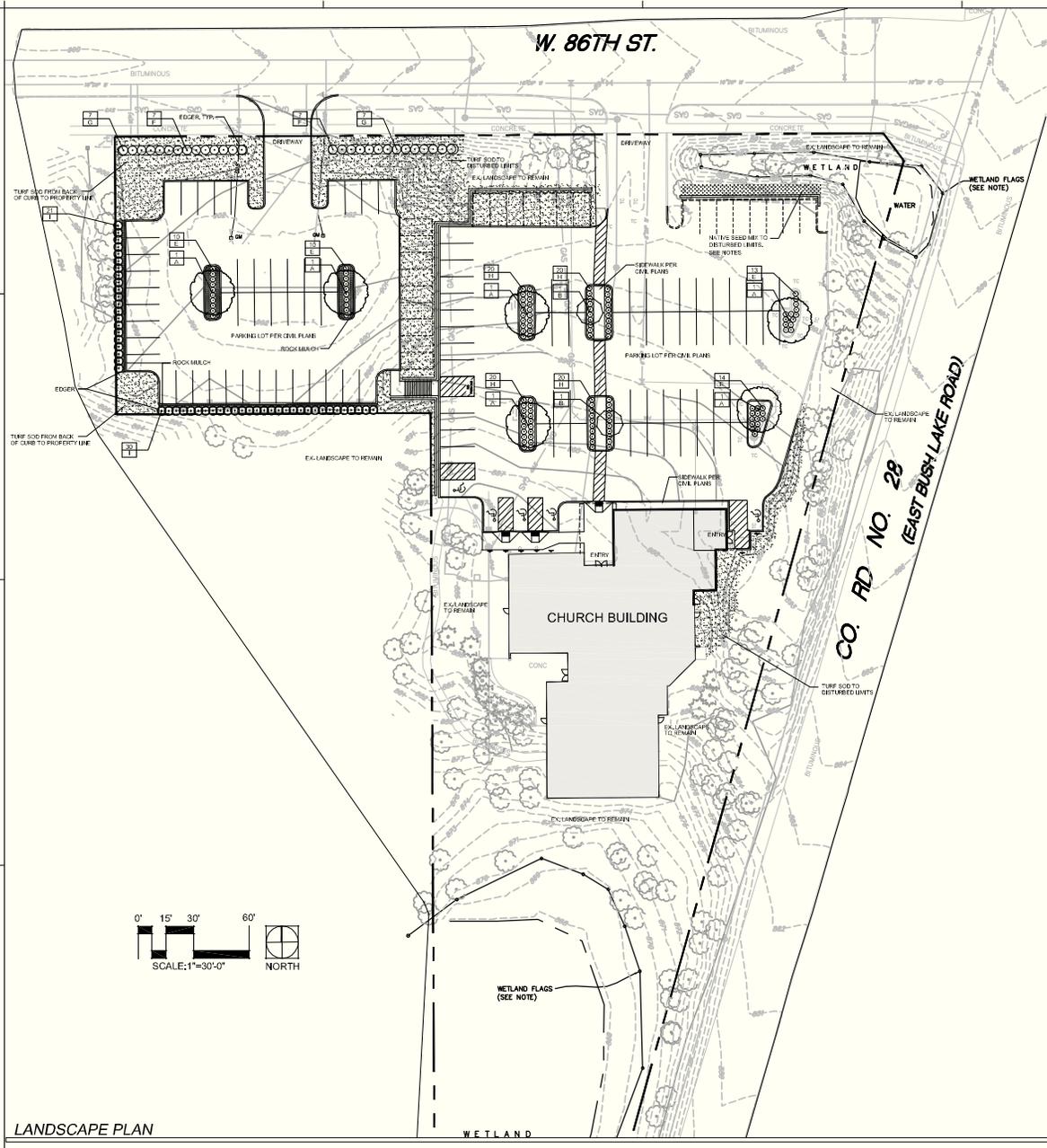
**TREE PRESERVATION PLAN**

TITLE

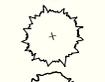
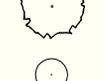
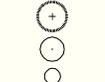
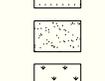
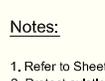
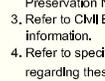
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SHEET NO.

**TREE PRESERVATION AND PROTECTION PLAN**



**Planting Symbols Legend:**

-  Proposed Deciduous Overstory Tree
-  Proposed Coniferous Tree
-  Proposed Deciduous Ornamental Tree
-  Proposed Large Deciduous Shrub
-  Proposed Large Coniferous Shrub
-  Proposed Medium Deciduous Shrub
-  Proposed Perennial Plant
-  Existing Tree to Remain (See Civil Plans for Tree Removals)
-  Rock Mulch
-  Turf Sod
-  Native Seed Mix

**Notes:**

1. Refer to Sheet L102 for Details, Notes, and Requirements.
2. Protect existing trees to remain per Sheet L100 and Tree Preservation Notes
3. Refer to CIVIL Engineer's plans for grading, drainage, and site plan information.
4. Refer to specifications manual for additional requirements regarding these plans.

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 Bloomington, MN 55438

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DATE 8/24/2016

PROJ. NO. 1511.00

**LANDSCAPE PLAN**

TITLE

**L101**

SHEET NO.

LANDSCAPE PLAN

**Landscape Notes & Requirements:**

1. Tree saucer for individual trees outside of a plant bed to be four inches (4") deep natural split-helm hardwood mulch for trees outside of a plant bed. Install per tree planting detail. Do not place mulch against tree trunk. Remove wire and buffer from top 2 ft of root ball before final soil backfill and mulch.
2. Refer to drill plan sheets for grading, drainage, site dimensions, survey, tree removal, proposed utilities and erosion control.
3. All plant materials shall comply with the latest edition of the American Standards for Nursery, American Association of Nurserymen. Unless noted otherwise, deciduous shrubs shall have 4-6 inch diameter at the specified shrub height. Plant material shall be delivered as specified.
4. Plant takes precedence over plant schedule if discrepancies in quantities exist.
5. All proposed plants shall be located and staked as shown.
6. Adjustment in location of proposed plant material may be needed in field. Should an adjustment be required, the client will provide field approval. Significant changes may require city review and approval.
7. The project landscape contractor shall be held responsible for wearing and properly handling all plant materials brought on the site both before and after installation. Schedule plant deliveries to coincide with expected installation time within 30 hours.
8. All plant materials shall be fielded upon installation as specified.
9. The landscape contractor shall provide the owner with a watering schedule appropriate to the project site conditions and to plant material growth requirements.
10. If the landscape contractor is concerned or perceives any deficiencies in the plant selections, soil conditions, drainage or any other site condition that might negatively affect plant establishment, survival or guarantee, they must bring these deficiencies to the attention of the landscape architect & client prior to bid submission. Plant bed drainage concerns during installation shall be brought to the attention of the Owner and General Contractor immediately.
11. Contractor shall establish to his/her satisfaction that soil and compaction conditions are adequate to allow for proper drainage at and around the building site.
12. Contractor is responsible for ongoing maintenance of all newly installed material until date of owner acceptance. Any acts of vandalism or damage which may occur prior to owner acceptance shall be the responsibility of the contractor. Contractor shall provide the owner with a maintenance program including, but not limited to, pruning, fertilization and disease/pest control.
13. The contractor shall guarantee newly planted material through one calendar year from the date of written owner acceptance. Plants that exhibit more than 10% dieback damage shall be replaced at no additional cost to the owner. The contractor shall also provide adequate tree wrap and stem/neck protection measures for the plantings during the warranty period.
14. This layout plan constitutes our understanding of the landscape requirements listed in the ordinance. Changes and modifications may be requested by the city based on applicant information, public input, council decisions, etc.
15. The landscape contractor shall be responsible for obtaining any permits and coordinating inspections as required throughout the work process.
16. Plant size & species substitutions must be approved in writing prior to acceptance on the field.
17. The landscape contractor shall furnish an Irrigation Layout Plan for head-to-head coverage of all tree, turf and shrub planting areas. Use Hunter commercial-grade irrigation equipment and provide product brochures and (3) copies of the proposed layout plan to the landscape architect for review and approval prior to installation. Coordinate irrigation scheduling under pavement, contractor, pylon, controller, backflow, and valving locations with the mechanical engineer, architect, & general contractor. Include 1/8" shut-down and spring 5/8"-4" in Irrigation Bill.
18. All edger shall be professional grade black steel edger, 1/8" thickness. Anchor every 18" on-center (minimum). Submit sample.
19. Landscape Contractor is responsible for coordination with the General Contractor to protect the new improvements on and off-site during landscape work activities. Report any damage to the General Contractor immediately.
20. Unless otherwise noted, irrigation plant beds shall receive rock mulch over fabric weed mat, per detail. Submit mulch sample for approval. Do not install weed mat under perennial plants, with the exception of ornamental grasses.
21. Rock mulch areas (all plant beds) shall be 1.5"-2" inch dia. washed limestone rock. Install per detail. Submit mulch sample for approval.
22. All planting, seeding, and sodded areas shall be prepared prior to installation activities with a harrow power box rake or equal to provide a firm planting bed free of stones, sticks, construction debris, etc.
23. Turf Seeding activity shall conform to all rules and regulations as established in the MnDOT Seeding Manual, 2014 edition, for seed bed preparation, installation, maintenance, accessibility, and warranty.
24. The Landscape Contractor shall furnish samples of all landscape materials for approval prior to installation.
25. The Landscape Contractor shall clear and grub the underbrush from within the work limits to remove dead branches, leaves, trash, weeds and foreign materials.
26. The landscape contractor shall contact Gopher State One Call no less than 48 hours before digging for field utility locations.
27. The landscape contractor shall be responsible for the removal of erosion control measures once vegetation has been established to the satisfaction of the municipal staff. This includes all erosion fencing and sediment logs placed in the landscape.
28. The landscape contractor shall be responsible for visiting the site to become familiar with the conditions prior to bidding and installation. Coordinate with the general contractor on matters such as site grading, landscape area conditions, staging areas, irrigation connection to building, etc.
29. See Site and Civil plans for additional information regarding the project, including irrigation area soils and sub-surface drainage requirements and performance.
30. Topsoil Perennials: All graded areas of the site that are designated on the plan set for soil shall have no less than 6" of imported top soil, areas designated for shrubs, trees, and perennials shall have no less than 12" of imported top soil, meeting MnDOT classifications for planting soil for trees, shrubs, and turf. Slope away from building.
31. Landscape contractor must prove the open sub-grade of all planting areas after their excavation is capable of providing a minimum requirement of 1/4-inch of water per hour prior to installation of plant materials, topsoil, irrigation, weed mat, and mulch. Planting areas not capable of meeting this requirement shall have 4" diameter x 48" depth holes spaced every 36" on-center and filled with MnDOT Free-Draining Coarse Fiber Aggregate. Re-test sub-grade penetration for compliance to infiltration minimum requirement.
32. Trees marked for removal on civil plans shall be cut down with the stump ground to 30" below grade. Remove all tree debris and dispose of on-site. No splitting or burning on-site will be allowed. Obtain permit for removal of trees in the right-of-way from the City of Bloomington. See Civil Plans for trees to be removed.
33. Landscape contractor to provide nursery pull list (bill of lading) including plant species and sizes shipped to the site. Additionally, the landscape contractor shall provide nursery book identifying, proving name of the materials provided, company or grower, source of the material/family including acuminata, chloranthoides, lilioides, etc., flowering time, etc., and stem/branch.
34. All trees must be field located and reviewed by the City of Bloomington prior to installation, to ensure a minimum 5 foot separation from public utilities.

**Landscape Plant List:**

Qty	Key	Scientific Name	Common Name	Size	Root	Notes
6	A	Thuja occidentalis	Lambert Lavender	3.0' Cal	B&B	
2	B	Crataegus laevigata 'Crimson Cloud'	Crimson Cloud Hawthorn	2.0' Cal	B&B	

**SEEDING SPECIFICATIONS:**

Woodland Edge Central Seed Mix, MnDot 4-36-711
--

Plant Name	Scientific Name	Plant Size	Plant Spacing	Plant Depth	Plant Spacing	Plant Depth	Plant Spacing
Asplenium adnigrum	Asplenium adnigrum	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium platyneuron	Asplenium platyneuron	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium septentrionale	Asplenium septentrionale	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium thelypteris	Asplenium thelypteris	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium platyneuron	Asplenium platyneuron	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
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Asplenium platyneuron	Asplenium platyneuron	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium septentrionale	Asplenium septentrionale	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium thelypteris	Asplenium thelypteris	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium platyneuron	Asplenium platyneuron	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium septentrionale	Asplenium septentrionale	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium thelypteris	Asplenium thelypteris	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium platyneuron	Asplenium platyneuron	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium septentrionale	Asplenium septentrionale	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium thelypteris	Asplenium thelypteris	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium platyneuron	Asplenium platyneuron	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium septentrionale	Asplenium septentrionale	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium thelypteris	Asplenium thelypteris	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium platyneuron	Asplenium platyneuron	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium septentrionale	Asplenium septentrionale	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium thelypteris	Asplenium thelypteris	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium platyneuron	Asplenium platyneuron	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium septentrionale	Asplenium septentrionale	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium thelypteris	Asplenium thelypteris	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium platyneuron	Asplenium platyneuron	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium septentrionale	Asplenium septentrionale	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium thelypteris	Asplenium thelypteris	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium platyneuron	Asplenium platyneuron	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium septentrionale	Asplenium septentrionale	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium thelypteris	Asplenium thelypteris	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium platyneuron	Asplenium platyneuron	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium septentrionale	Asplenium septentrionale	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium thelypteris	Asplenium thelypteris	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium platyneuron	Asplenium platyneuron	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium septentrionale	Asplenium septentrionale	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium thelypteris	Asplenium thelypteris	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium platyneuron	Asplenium platyneuron	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium septentrionale	Asplenium septentrionale	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium thelypteris	Asplenium thelypteris	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium platyneuron	Asplenium platyneuron	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium septentrionale	Asplenium septentrionale	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium thelypteris	Asplenium thelypteris	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium platyneuron	Asplenium platyneuron	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium septentrionale	Asplenium septentrionale	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium thelypteris	Asplenium thelypteris	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium platyneuron	Asplenium platyneuron	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium septentrionale	Asplenium septentrionale	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium thelypteris	Asplenium thelypteris	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium platyneuron	Asplenium platyneuron	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium septentrionale	Asplenium septentrionale	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium thelypteris	Asplenium thelypteris	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium platyneuron	Asplenium platyneuron	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium septentrionale	Asplenium septentrionale	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium thelypteris	Asplenium thelypteris	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium platyneuron	Asplenium platyneuron	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium septentrionale	Asplenium septentrionale	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium thelypteris	Asplenium thelypteris	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium platyneuron	Asplenium platyneuron	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium septentrionale	Asplenium septentrionale	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium thelypteris	Asplenium thelypteris	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium platyneuron	Asplenium platyneuron	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium septentrionale	Asplenium septentrionale	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium thelypteris	Asplenium thelypteris	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium platyneuron	Asplenium platyneuron	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium septentrionale	Asplenium septentrionale	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium thelypteris	Asplenium thelypteris	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium platyneuron	Asplenium platyneuron	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium septentrionale	Asplenium septentrionale	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium thelypteris	Asplenium thelypteris	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium platyneuron	Asplenium platyneuron	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium septentrionale	Asplenium septentrionale	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium thelypteris	Asplenium thelypteris	1.5" x 1.5"	12" x 12"	4"	12" x 12"	4"	12" x 12"
Asplenium platyneuron	Asplenium platyneuron	1.5" x					