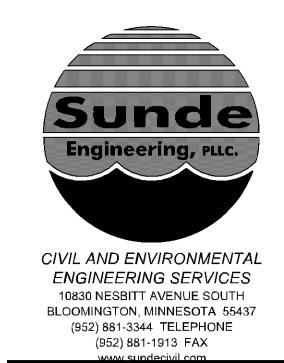
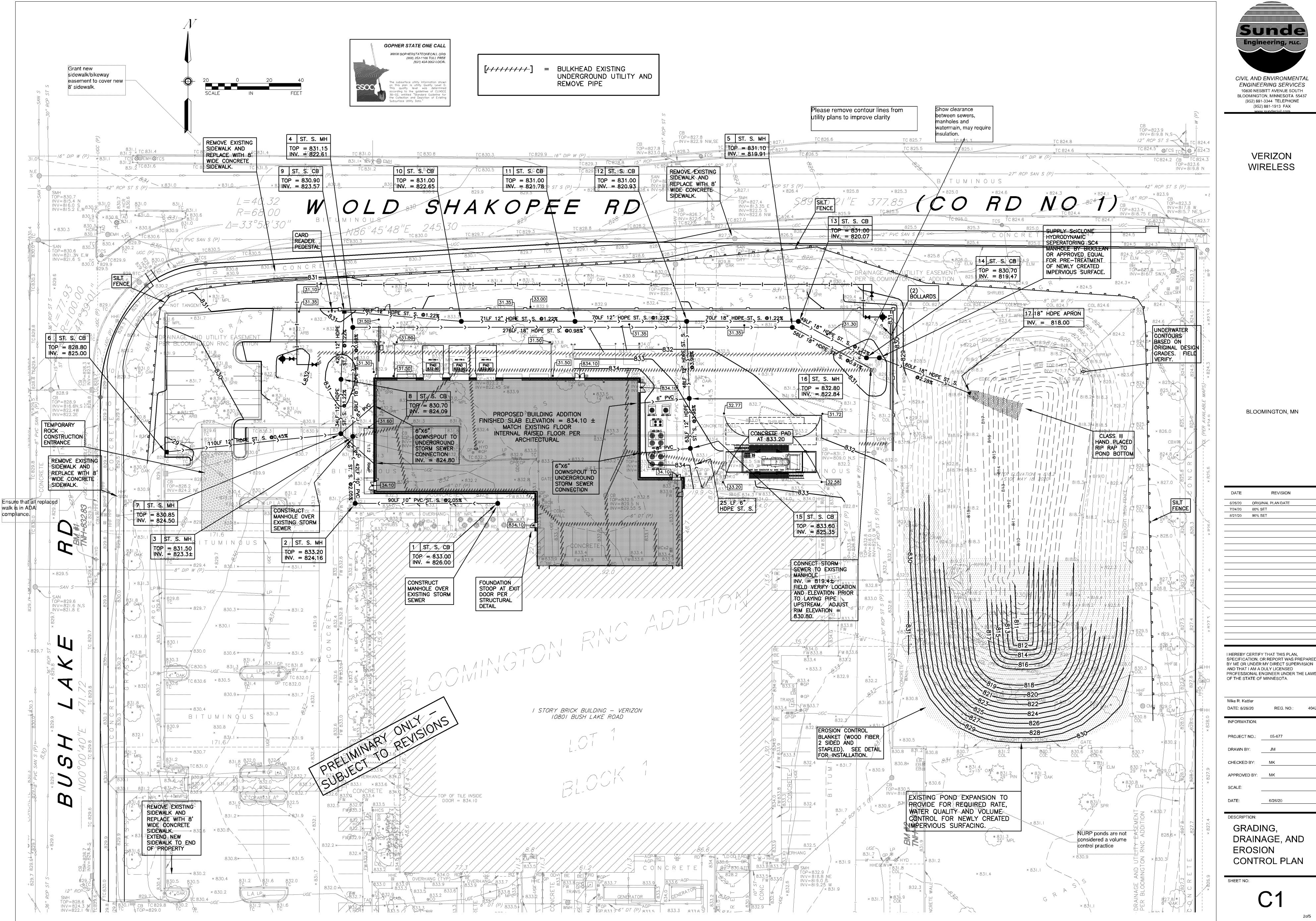


#05-677 T. , R. , S.

DRAWING: C:\Users\Kettler\Desktop\2020-08-21\05677c10.dwg LAYOUT: C0 XREF: siteplan; XREF: 200174900_XREF SITE BASE; XREF: 200174900_XREF ARCH BASE; XREF: 200174900_XREF ELEC BASE



1of5



T. , R. , S.

#05-677

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VERIZON

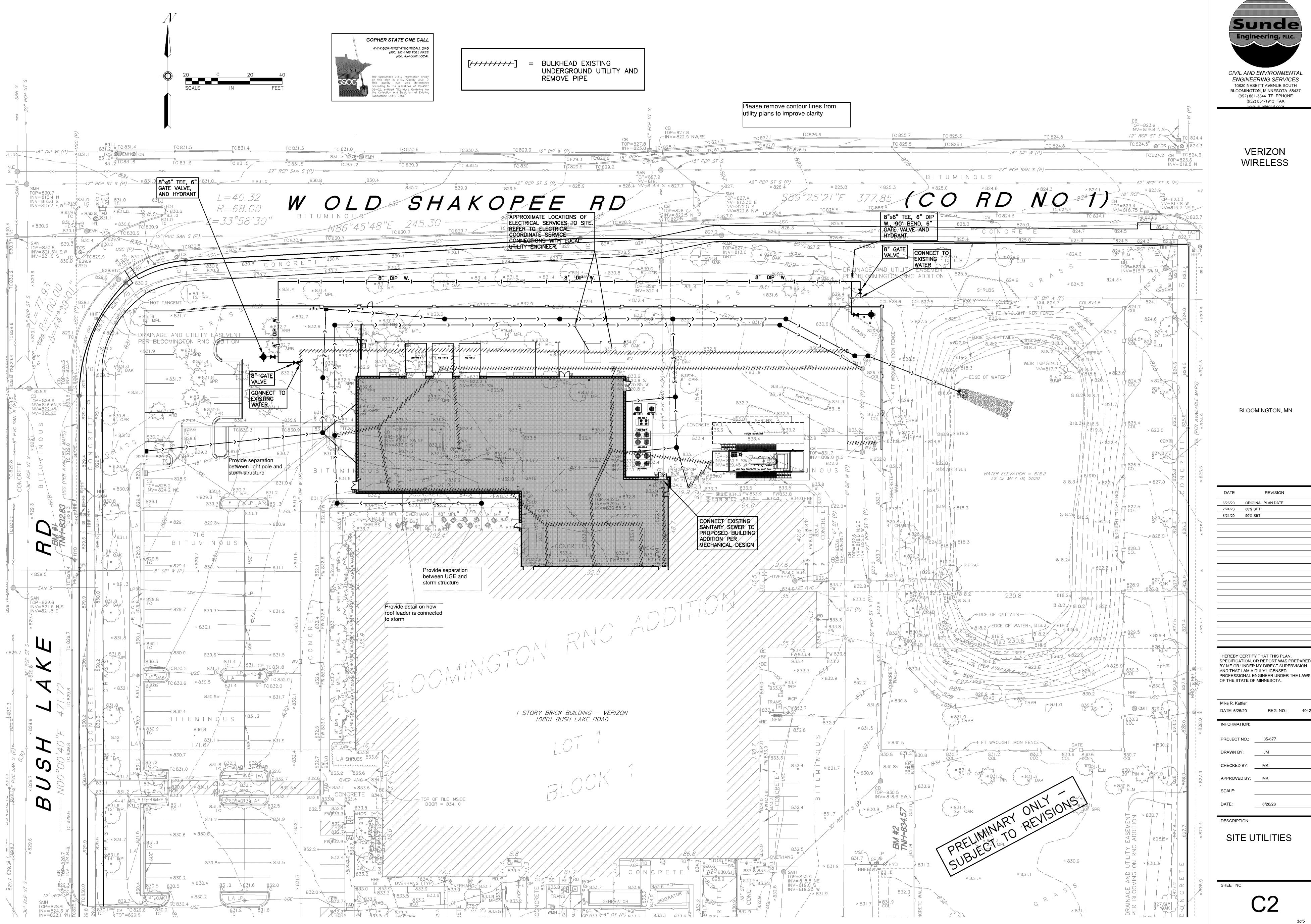
BLOOMINGTON, MN

6/26/20 ORIGINAL PLAN DATE

I HEREBY CERTIFY THAT THIS PLAN BY ME OR UNDER MY DIRECT SUPERVISION

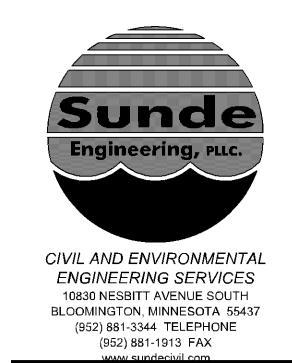
DRAINAGE, AND CONTROL PLAN

2of5



#05-677 T., R., S.

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VERIZON WIRELESS

BLOOMINGTON, MN

6/26/20 ORIGINAL PLAN DATE 7/24/20 60% SET 8/21/20 90% SET

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

Mike R. Kettler DATE: 6/26/20 INFORMATION: PROJECT NO.: 05-677 CHECKED BY: APPROVED BY:

SITE UTILITIES

SHEET NO:

3of5

GENERAL:

- 1. Existing boundary, location, topographic, and utility information shown on this plan is from a field survey by Sunde Land Surveying, LLC dated May 28, 2020. The Engineer is not responsible for inaccuracies related to the survey information
- 2. Perform all construction work in accordance with State and Local requirements.
- 3. Perform all construction activity in accordance with the Minnesota Pollution Control Agency GENERAL STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY issued August 1, 2018 and all subsequent amendments
- 4. Comply with all applicable local, state, and federal safety regulations. Comply with the work safety practices specified by the Occupational Safety and Health Administration (OSHA). OSHA prohibits entry into "confined spaces," such as manholes and inlets (see 29 CFR Section 1910.146), without undertaking certain specific practices and procedures. Bench or slope sidewalls in order to provide safe working conditions and stability for the placement of engineered fill. Perform excavations in accordance with the requirements of O.S.H.A. 29 CFR, Part 1926, Subpart P, Excavations. The Contractor is responsible for naming the "Competent Individual" in accordance with CFR 1926.6. Sloping or benching for excavations greater than 20 feet deep must be approved by a registered professional engineer (www.osha.gov).
- 5. Safety is solely the responsibility of the Contractor, who is also solely responsible for the construction means, methods, techniques, sequences or procedures, and for safety precautions and programs in connection with the Work.
- 6. The Engineer shall not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work. The Engineer's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures.
- 7. Examine all lacal conditions at the site, and assume responsibility as to the grades, contours, and the character of the earth, existing conditions, and other items that may be encountered during excavation work above or below the existing grades. Review the drawings, specifications, and geotechnical report covering this work and become familiar with the anticipated site conditions.
- 8. A licensed surveyor shall perform construction staking. The Contractor shall provide and be responsible for the staking. Verify all plan and detail dimensions prior to construction staking. Stake the limits of walkways and curbing prior to valvebox, maintenance hole, and catchbasin installation. Adjust valvebox and maintenance hole locations in order to avoid conflicts with curb and gutter. Adjust catchbasin locations in order to align properly with curb and gutter.
- 9. Provide temporary fences, barricades, coverings, and other protections in order to preserve existing items to remain, and to prevent injury or damage to person or property.
- 10. The Contractor is solely responsible for all utility locates. Contact utility companies for locations of all public and private utilities within the work area prior to beginning construction. Contact Digger's Hatline at (414) 259–1181 in the Milwaukee Metro Area, or 1–800–242–8511 elsewhere in Wisconsin for exact locations of existing utilities at least 72 hours (not including weekends and holidays) before beginning any construction. Obtain ticket number and meet with representatives of the various utilities at the site. Provide the Owner with the ticket number information. Digger's Hotline is a free service that locates municipal and utility company lines, but does not locate private utility lines. Use an independent locator service or other means in order to obtain locations of private utility lines including, but not limited to, underground electric cables, telephone, TV, and lawn sprinkler lines.
- 11. Pothole to verify the positions of existing underground facilities at a sufficient number of locations in order to assure that no conflict with the proposed work exists and that sufficient clearance is available.
- 12. Where existing gas, electric, cable, or telephone utilities conflict with the Work, coordinate the abandonment, relocation, offset, or support of the existing utilities with the appropriate local utility companies. Coordinate new gas meter and gas line installation, electric meter and electric service installation, cable service, and telephone service installation with the local utility companies.
- 13. Arrange for and secure suitable disposal areas off—site. Dispose of all excess soil, waste material, debris, and all materials not designated for salvage. Waste material and debris includes trees, stumps, pipe. concrete, asphaltic concrete, cans, or other waste material from the construction operations. Obtain the rights to any waste area for disposal of unsuitable or surplus material either shown or not shown on the plans. All work in disposing of such material shall be considered incidental to the work. All disposal must conform to applicable solid waste disposal permit regulations. Obtain all necessary permits at no cost to
- 14. Straight line saw—cut existing bituminous or concrete surfacing at the perimeter of pavement removal areas. Use saws that provide water to the blade. Do not allow the slurry produced by this process to be tracked outside of the immediate work area or discharged into the sewer system. Tack and match all connections to existing bituminous pavement.
- 15. All materials required for this work shall be new material conforming to the requirements for class, kind, grade, size, quality, and other details specified herein or as shown on the Plans. Do not use recycled or salvaged aggregate, asphaltic pavement, crushed concrete, or scrap shingles. Unless otherwise indicated, the Contractor shall furnish all required materials.
- 16. Document existing conditions (photographs, video, field survey, etc.) in order to enable restoration to match existing conditions and in order to ensure that restored areas have positive drainage similar to existing
- 17. Protect sub grades from damage by surface water runoff.

and other vehicles.

- 18. Full design strength is not available in bituminous pavement areas until the final lift of asphalt is compacted into place. Protect pavement areas from overloading by delivery trucks, construction equipment,
- 19. Adjust all curb stops, valve boxes, maintenance hole castings, catchbasin castings, cleanout covers, and similar items to finished arade.
- 20. Install all pipe with the ASTM identification numbers on the top for inspection. Commence pipe laying at the lowest point in the proposed sewer line. Lay the pipe with the bell end or receiving groove end of the pipe pointing upgrade. When connecting to an existing pipe, uncover the existing pipe in order to allow any adjustments in the proposed line and grade before laying any pipe. Do not lay pipes in water or when the trench conditions are unsuitable for such work.
- 21. Measure pipe lengths from center-of-structure to center-of-structure, or to the end of aprons. 22. Compact 3" of Class 5 Aggregate Base into place below all proposed curb and gutter.
- 23. These plans, prepared by Sunde Engineering, PLLC., do not extend to or include systems pertaining to the safety of the construction contractor or its employees, agents, or representatives in the performance of the work. The seal of Sunde Engineering's registered professional engineer hereon does not extend to any such safety systems that may nor or hereafter be incorporated into these plans. The construction contractor shall prepare or obtain the appropriate safety systems which may be required by U.S. Occupational Safety and Health Administration (OSHA) and/or local regulations.
- 24. <u>Bituminous Pavement Tolerances</u>: Check bituminous pavement surfaces with a 10-foot (3-meter) straightedge. Remove and replace any part of the bituminous pavement where the deviation of surface flatness in excess of 1/4 inch (6 mm). After compaction, the thickness of each bituminous course shall be within plus or minus 1/2 inch (13 mm) of the thickness shown on the Plans. Remove and replace any part of the bituminous pavement that is constructed with less than the minimum required thickness.
- 25. <u>Pavement Alignment Tolerances</u>: Lateral deviation from established alignment of the pavement edge shall not exceed plus or minus 0.10 foot (30 mm). Vertical deviation from established grade of the pavement shall not exceed plus or minus 0.04 foot (13 mm) at any point.

FILL, BACKFILL, AND COMPACTION:

- 1. Soil Correction: Remove all unsuitable fill soils from beneath the building footprint, beneath all building oundations, and their 1 to 1 horizontal oversizing area. Replace with compacted engineered fill material. Refer to the "C.2 Design Considerations" section of the Geotechnical Report for details. Coordinate inspection and approval of the bottom of all foundation excavations with the Geotechnical
- 2. The Contractor shall retain the services of an independent Testing Laboratory in order to perform continuous full-time on-site geotechnical observation during stripping, rough grading, excavating, filling, and backfilling operations. DO NOT commence or perform any of this work without the presence of the
- 3. The Contractor shall retain the services of an independent testing laboratory to perform analysis of fill materials and density testing.
- 4. Perform all fill, backfill, and compaction in accordance with the recommendations of the Geotechnical 5. Allow no standing water in areas to receive fill or backfill. Keep areas free of water during placement
- and compaction. Do not place backfill or fill material on surfaces that are muddy, frozen, or that
- 6. Prepare around surface to receive fill by removing vegetation, debris, unsatisfactory soil materials, mud. and obstructions. Correct any soft or unstable spots by scarifying, wetting or drying, and compacting the upper 0.6 m (2 feet) of the subgrade to density requirements for the backfill material. Use a smooth drum vibratory roller for final compaction. Remove soils that cannot be consolidated to provide a firm layer of support, and replace them with suitable material. Scarify as required so that fill material will bond with the existing surface.
- 7. Maintain the moisture content of fill and backfill within \pm 3 percent of the optimum such that the required degree of compaction can be obtained. Sprinkle water on the surface of subgrade or layers of soil material where soil is too dry to permit compaction to the required density. Remove and replace, or scarify and air dry, soil material that is too wet to permit compaction to the required
- 8. Do not allow the fill layer to exceed 0.3 meters (1 foot) without testing the fill layer. Minimum number of tests are per unit area per lift or fraction thereof.
- 9. If subgrades or fills that have been placed are below specified density, provide additional compaction and testing until subgrades ar fills meet ar exceed specified density at no additional expense to the

SITE GRADING:

- 1. Visit the site. Become familiar with the site and existing site conditions including available soil reports. Examine all local conditions at the site, and assume responsibility as to the grades. contours, and the character of the earth, existing conditions, and other items that may be encountered during excavation work above or below the existing grades. Review the drawings and specifications covering this work and become familiar with the anticipated site conditions.
- 2. Unless atherwise noted, all proposed grades shown are finished grades. Finished grades at points between spot elevations or contours are determined by uniform slopes between the given grades. All proposed spat elevations shown at curblines are to bottom of curb (gutterline) unless otherwise
- 3. At locations where new work connects to existing work, field verify existing elevations and grades prior to beginning the new work. Match existing grades at construction limits.
- 4. Remove all unsuitable material (organic soils, uncontrolled fill, debris, and natural or artificial obstructions) in the zone from 1 m (3.28 feet) below the finished subgrade to finished subgrade in the proposed pavement areas. 5. Compact backfill in all utility trenches to 95% Standard Proctor maximum dry density (ASTM
- D698-78 or AASHTO T-99) from the pipe zone to within 1 m (3.28 feet) below the finished subgrade, and 100% Standard Proctor maximum dry density in the final 1 m (3.28 feet). Provide density tests in backfills and fills placed beneath footings, slabs, and pavements. At least one compaction test is required for every 100 feet of trench at vertical intervals not exceeding one foot.
- 6. Compact all fill placed in pavement areas in accordance with MNDOT Standard Specification 2105.3.F1 (Specified Density). Comply with the requirements of O.S.H.A. 29 CFR, Part 1926, Subpart P, "Excavations" (www.osha.gov)
- 7. Construct all proposed sideslopes with grades not exceeding 3:1 (3 horizontal to 1 vertical), unless otherwise indicated.
- 8. Test roll the building and pavement areas in the presence of the Geotechnical Engineer. Perform base preparation and test rolling prior to curb and gutter construction, placing of gravel base, sand/gravel sub-base, bituminous stabilized base, or plant mixed bituminous base on all street and pavement areas. Test roll the area between 300 mm (12 inches) outside of the back of the curbs on either side of the paved areas. Use a heavy pneumatic—tired roller, towed by suitable tractive equipment, with two wheels spaced not less than 1,800 mm (71 inches) apart (transversely center to center), tire size equal to 18x24 or 18x25 (18" wide) inflated to a pressure of 650 kPa (94 psi), and a gross mass of the roller not less than 13.5 metric tons (14.9 tons) and not more than 13.7 metric tons (15.1 tons). Test roll the above specified area in a manner such that each part of the area comes in contact with one of the tires at least once. Operate the heavy roller at a speed of not less than 4 km/h (2.5 mph) and not more than 8 km/h (5 mph). The subgrade shall be considered unstable if, at the time that the heavy roller passes over the subgrade, the surface shows yielding or rutting of more than 50 mm (2 inches), measured from the original surface to the bottom of the rut. Correct any soft spots or displacements which appear during the test rolling by scarifying, aerating or watering, and recompacting as required to obtain stability; or by excavating to solid material and backfilling with material suitable for base construction. Remove material such as vegetation, rubbish, large stones, peat, and wet clay. Retest the area after correction.
- 9. In areas where the proposed grade adjacent to the curb line slopes upward or downward, grade the first 5 feet of lawn area parallel to the curb line at a 20:1 slope before making the transition to
- 10. Coordinate inspection and approval of all subgrades within the building and pavement areas with the Geotechnical Engineer. Coordinate inspection and approval of all fill materials prior to placement within the building and pavement areas with the Geotechnical Engineer. Use only uncontaminated fill
- 11. Conduct all grading operations in a manner that minimizes the potential for site erosion.
- 12. Grade the site to the finished elevations shown on the plan. Import embankment material. or remove and dispose of excess excavation material as required. Provide waste areas or disposal sites for excess material including, but not limited to, excavated material or broken concrete that is not desirable to be incorparated into the work involved on this project. Determination of material import and export quantities is solely the responsibility of the Contractor and the cost of material
- 13. Tolerances: The completed subgrade under slabs and pavement areas shall be compacted, free from irregular surface changes, and fine-graded not more than 16 mm (0.05 feet) above or below the specified subgrade elevation. The completed subgrade in other areas shall be compacted, free from irregular surface changes, and fine-graded not more than 30 mm (0.10 feet) above or below the specified subgrade elevation. The completed top of topsoil shall be compacted, free from irregular surface changes, and fine-graded not more than 16 mm (0.05 feet) above or below the specified finished grade elevation.
- 14. Choose equipment and work procedures that will not disturb the subgrade soils. Route construction traffic away from foundation soils and areas of pavements and slabs in order to minimize soil disturbance. If the construction equipment causes rutting or soil pumping, then switch to other types of equipment or methods. The Contractor is salely responsible for the proper selection of construction equipment in order to avoid disturbing soils on the site.
- 15. It is typical to abbreviate spot elevations. Elevations shown as 12.8 or 12.1 are understood to mean 912.8 or 912.1 respectively.

STORM DRAINAGE:

- 1. PVC Pipe (Outside of the Building): Use solid-core, Schedule 40, ASTM D2665 Polyvinyl Chloride (PVC) Plastic Pipe for all designated PVC storm sewer services outside of the building. Fittings must comply with ASTM D1866, D2665, or F794. Joints must be approved mechanical or push-on utilizing an elastomeric seal. Use of solvent cement joints is allowed for building services. Solvent cement joints in PVC pipe must include use of ASTM F656 purple primer and cement in accordance with Uniform Plumbing Code (UPC), part 605.13.2. Pipe with solvent cement joints shall be joined with PVC cement conforming to ASTM D2564. The installation must comply with ASTM D2321, which requires open-trench installation on a continuous granular bed.
- 2. All joints and connections in the storm sewer system shall be gastight or watertight. Use flexible campression joints to make watertight connections to manhales in accordance with Minnesota Rules part 4714.0719.6. Where permitted by the administrative authority, approved resilient rubber joints or waterstop gaskets must be used in order to make watertight connections to manholes, catchbasins, and other structures. Use Fernco "Concrete Manhole Adaptors" or "Large Diameter Waterstops", Press-Seal "Waterstop Grouting Rings", or approved equal. Cement mortar joints are permitted only for repairs or connections to existing lines
- 3. Testing: Test all portions of storm sewer that are within 10 feet of buildings, within 10 feet of buried water, lines, within 50 feet of water wells, or that pass through soil or water identified as being contaminated in accordance with the Minnesota Rules part 4714.1109 and UPC part 1109.0. Test all flexible storm sewer lines for deflection after the sewer line has been installed and backfill has been in place for at least 30 days. No pipe shall exceed a deflection of 5%. If the test fails, make necessary repairs and retest.
- 4. Install all pipe with the ASTM identification numbers on the top for inspection. Commence pipe laying at the lowest point in the proposed sewer line. Lay the pipe with the bell end or receiving groove end of the pipe pointing upgrade. When connecting to an existing pipe, uncover the existing pipe in order to allow any adjustments in the proposed line and grade before laying any pipe. Do not lay pipes in water or when the trench conditions are unsuitable for such

HDPE REQUIREMENTS:

- 1. Install dual-wall, smooth interior, corrugated high-density polyethylene (HDPE) pipe at locations indicated on the plan. High-density polyethylene (HDPE) storm sewers must meet ASTM F714 (see Minnesota Rules, Chapter 4714 and Installation Standard 1).
- 2. Dual—wall, smooth interior, corrugated high—density polyethylene (HDPE) pipe shall conform to the requirements of AASHTO M252 for pipe sizes 4-inch to 10-inch diameter. Dual-wall, smooth interior, corrugated high-density polyethylene (HDPE) pipe shall conform to the requirements of ASTM F2306 for pipe sizes 12-inch to 60-inch diameter.
- 3. All fittings must comply with ASTM Standard D3212.
- 4. Water-tight joints must be used at all connections including structures.
- 5. HDPE pipe connections into all concrete structures must be made with water tight materials utilizing an A-Lok or WaterStop gasket or boot, cast-in-place rubber boot, or approved equal. Where the alignment precludes the use of the above approved watertight methods, Conseal 231 WaterStop sealant, or approved equal will only be allowed as approved by the Engineer.
- 6. Lay all HDPE pipe on a continuous granular bed. Installation must comply with ASTM D2321. All sections of the corrugated HDPE pipe shall be coupled in order to provide water tight joints.
- 7. Perform deflection tests on all HDPE pipe after the sewer lines have been installed and backfill has been in place for at least 30 days. No pipe shall exceed a deflection of 5%. If the test fails, make necessary repairs and perform the test again until acceptable. Supply the mandrel for deflection testing. If the deflection test is to be run using a rigid ball or mandrel, it shall have a diameter equal to 95% of the inside diameter of the pipe. The ball or mandrel shall be clearly stamped with the diameter. Perform the tests without mechanical pulling devices.

EROSION PREVENTION PRACTICES:

- 1. Delineate the location of areas not to be disturbed (e.g. with flags, stakes, signs, silt fence, etc.) on the development site before work begins.
- 2. Avoid removal of trees and surface vegetation wherever possible. Schedule construction in order to expose the smallest practical area of soil at any given time. Implement appropriate construction phasing, vegetative buffer strips, horizontal slope grading, and other construction practices that minimize erosion.
- 3. Following initial soil disturbance or redisturbance, complete permanent or temporary stabilization against erosion due to rain, wind, and running water as soon as possible, but in no case later than 14 calendar days, an all disturbed or graded greas including stormwater management pond sideslopes. This requirement does not apply to those areas that are currently being used for material storage or for those areas on which grading, site building, or other construction activities are actively underway.
- 4. Provide temporary grass seed cover on all topsoil stockpiles and other areas of stockpiled excavated material in order to prevent soil erosion and rapid runoff during the construction period. Prolonged periods of open, bare earth without grass cover will not be permitted. Stabilize all disturbed greenspace areas with a minimum of 4" topsoil immediately after final subgrade completion. Seed and mulch, or sod and stake these areas within 48 hours after completion of final grading work (weather permitting). 5. Stabilize all disturbed areas to be paved using early application of gravel base.
- 6. Apply necessary moisture to the construction area in order to prevent the spread of dust.
- 7. In areas to be permanently stabilized, landscape with decorative rock, plantings, and sod. Refer to the approved Landscape Plan for design and details.
- 8. The street will be swept clean before the end of each day of active construction, when sediment is tracked 9. Areas with slopes greater than 3 to 1 and areas next to wetlands/waterbodies graded or exposed during
- construction shall be protected with temporary vegetation, mulching or other means as soon as practical. 10. No concrete washout shall occur on site unless it is done with an approved Minnesota Pollution Control Agency (MPCA) device or standard.
- 11. Stockpiles shall be surrounded with adequate perimeter control to prevent sedimentation and erosion. 12. Site shall be kept clean at all times and refuse properly controlled.
- 14. The contractor shall inspect on a weekly basis and after any rainfall greater than 0.5" all erosion control devices and make any repairs immediately. An inspection log shall be kept an site detailing these inspections

13. Temporary pumping shall not be permitted without the use of an approved Minnesota Pollution Control Agency

and repairs preformed.

- INSPECTIONS AND MAINTENANCE: 1. Inspect the entire construction site at least once every 7 days during active construction and within 24 hours after a rainfall event greater than 0.5 inches in a 24-hour period. Following an inspection that accurs within 24 hours after a rainfall event, the next inspection must be conducted within 7 days after that rainfall event.
- 2. Inspect all erosion prevention and sediment control BMPs, infiltration areas, and stabilized areas.
- 3. Record all inspections and maintenance conducted during construction in writing and keep these records. The inspections and maintenance records must include date and time of inspections, date and amount of all rainfall events greater than 0.5 inches in a 24-hour period, name of persons(s) conducting inspections, findings of inspections, recommendations for corrective actions, and any corrective actions

discovery, or as soon as field conditions allow access unless another time frame is specified.

- 4. Inspect all erosion prevention and sediment control BMPs in order to ensure integrity and effectiveness. Repair, replace, or supplement any nonfunctional BMPs with functional BMPs within 24 hours after
- 5. Remove accumulated sediment deposits from behind erosion and sediment control devices as needed. Do not allow sediment to accumulate to a depth of more than one—third of the height of the erosion and sediment control devices. Repair, replace or supplement deteriorated, damaged, rotted, or missing erosion control devices within 24 hours of discovery, or as soon as field conditions allow access.
- 6. Repair, replace, or supplement all silt fences when they became nonfunctional or the sediment reaches 1/3 of the height of the fence. These repairs must be made within 24 hours of discovery, or as soon as field conditions allow access.
- 7. Clean sedimentation basins, storm sewer catch basins, ditches, and other drainage facilities as required in order to maintain their effectiveness. Temporary and permanent sedimentation basins must be drained and the sediment removed when the depth of sediment collected in the basin reaches 1/2 of the storage volume. Drainage and removal must be completed within 72 hours, or as soon as field
- 8. Inspect surface waters (including drainage ditches and conveyance systems) for evidence of erosion and sediment deposition. Remove all deltas and sediment deposited. Stabilize areas where sediment removal results in exposed soil. Removal and stabilization must be completed within 7 days of discovery unless precluded by legal, regulatory, or physical access constraints. If precluded, removal and stabilization must take place within 7 days of obtaining access.
- 9. Inspect construction site vehicle exit locations for evidence of off-site sediment tracking onto paved surfaces. Remove all soils and sediments tracked or otherwise deposited onto adjacent property, pavement areas, sidewalks, streets, and alleys. Removal shall be on a <u>daily basis</u> throughout the duration of the construction. Clean paved roadways by shoveling or wet—sweeping. Do not dry sweep. If necessary, scrape paved surfaces in order to loosen compacted sediment material prior to sweeping. Haul sediment material to a suitable disposal area. Street washing is allowed only after sediment has been removed by shoveling or sweeping.
- notification. Install any additional erosion protection or sediment control measures deemed necessary by the City or Watershed District within 24 hours of notification.

10. Perform any corrective measures ordered by the City or Watershed District within 24 hours of

WATER DISTRIBUTION SYSTEM

- 1. Separation of Water and Sewer: Construct sewer and water services in accordance with Minnesota Rules, part 4714.0721 and Uniform Plumbing Code (UPC) parts 720.0 and 721.0. Provide a minimum horizontal separation of 10 feet between all water and sewer lines, including manholes, catch basins, storm sewer, sanitary sewer, draintile, or other potential sources for contamination. Measure the separation distance from the outer edge of the pipe to the outer edge of the contamination source (outer edge of structures, piping, etc.) At water and sewer crossings, the bottom of the water pipe located within ten feet of the point of crossing must be at least 12-inches above the top of the sewer. When this is not feasible, the sewer pipe material must be approved for use inside of or within a building in accordance with the requirements of Minnesota Rules part 4714.0701 and UPC part 701.0. No joints or connections are allowed on the water line within 10-feet of the crossing.
- 2. Watermain Depth: Maintain 8-feet of cover over the top of the water lines to the finished grade. Verify elevation of proposed and existing water lines at all utility crossings. Install the water lines at greater depths in order to clear storm sewers, sanitary sewers, or other utilities as required. Include costs to lower water lines in the base bid.
- 3. Disinfection: Disinfect all completed watermains in accordance with AWWA Standard C651. If the tablet or continuous feed methods are used, disinfect using with water that contains at least 50 ppm of available chlorine in accordance with Minnesota Rules, part 4714.0609 and UPC part 609.9. Do not use the tablet method on solvent-welded plastic or on screwed-joint steel pipe because of the danger of fire or explosion from the reaction of the joint compounds with the calcium hypochlorite. Retain the treated water in the pipeline for at least 24 hours. Measure the chlorine residual at the end of the 24 hours period. The free chlorine residual must be at least 10 mg/l measured at any point in the line. Measurement of the chlorine concentration at regular intervals shall be in accordance with Standard Methods, AWWA M-12, or using appropriate chlorine test kits.
- 4. Ductile iron pipe (DIP) water services must comply with AWWA C151/ANSI A21.51 or AWWA C115/ANSI A21.15 (See Minnesota Rules part 4714.0604 and UPC part 604.0.). Use Thickness Class 52 DIP with push-on joints. Use petroleum resistant gaskets, Nitrile (NBR), or approved equal. Use only ANSI 304 stainless steel bolts and nuts on all watermain fittings, valves, and hydrants. The exterior of ductile iron pipe shall be coated with a layer of arc-sprayed zinc per ISO 8179. The interior cement mortar lining shall be applied without asphalt seal coating. Polyethylene encasement is required on all ductile iron pipe. Use V-Bio Enhanced Polyethylene Encasement or approved equal.
- 5. <u>Testing</u>: Pressure test and perform bacteriological tests on all water lines under the supervision of the ry Public Works Department. Notify the City at least 24 working hours prior to any testing. Pressure test the water system in accordance with the UPC part 609.4. Pressurize the waterline to a water pressure of 1034—kPa (150—psi) gauge pressure (measured at the point of lowest elevation) by means of a pump connected to the pipe in a satisfactory manner. Do not add water to the watermain in order to maintain the required pressure during the water main pressure testing. Minnesota Department of Labor and Industry: The test section of pipe shall withstand the test without leaking for a period of not less than 15 minutes. <u>Minnesota Department of Health</u>: The watermain shall be pressure tested at 150—psi for at least two hours with not more than a 2—psi pressure drop during the last hour of the
- 6. All water supply piping connected to municipal water main must have a 150 psi minimum pressure rating. 7. <u>Curb Valves and Boxes</u>: Use Mueller H-10334 extension type curb box with Minneapolis pattern base, or____ approved equal, at all $\frac{3}{4}$ " through 2" curb stop locations. Stationary rod is required on all curb stops. Use Mueller Company Mark II Oriseal No. H—15154N curb stop, or approved equal, and stainless steel
- 8. Do not connect new watermain to existing until the new water main is pressure tested and disinfected.
- 9. All newly installed or replacement pipes, pipe fittings, plumbing fittings and fixtures, including backflow preventers, that are installed on patable water systems or systems that are designed to distribute water for potable use, are required to meet the Reduction of Lead in Drinking Water Act, which establishes a maximum lead content of 0.25 percent by weighted average of the wetted surfaces. Solder and flux for potable water systems shall contain less than 0.2 percent lead. Joints must include non-corrosive non—toxic paste—type flux complying with ASTM B813 (see Minnesota Rules, Chapter 4714, Section

605.3.4). See Minnesota Rules, part 4714.0604 and UPC part 604.11.

- 10. Bring all site utilities to 2' outside of the building line with the exception of the water service. Extend water service into the building and up to the flange for the water meter. Do <u>not</u> install PVC water service pipe under or within any building, structure, or part thereof.
- 11. Do not exceed the manufacturer's specifications for curvature of pipe and deflection at pipe joints. Securely close all open ends of pipe and fittings with watertight plugs when work is not in progress. Keep the interior of all pipes clean and remove any dirt or debris from joint surfaces after the pipes

have been lowered into the trench. Install all valves plumb and located according to the plans.

MATERIALS

permeable geotextile material.

City highly encourages the

use of biodegradable

erosion control blanket

- 1. Storm Sewer Inlet Protection (areas with pedestrian or vehicle traffic): Emergency overflow is required. Take care to protect the catch basin curb—box from additional sediment escaping over the top of these devices while still allowing for emergency overflow.
- a. <u>Road Drain Curb & Gutter</u>: With replaceable filter sock. Manufactured by WIMCO, 799 Theis Drive, Shakopee, MN 55379, Phone (952) 233-3055, (www.roaddrain.com).
- b. <u>Silt Sack</u>: Type B, regular flow (50 gpm/ft2), with curb deflector as required. Rectangular siltsack on rectangular inlets. Round siltsack on round inlets. Manufactured by ACF ENVIRONMENTAL, 2831 Cardwell Road, Richmond, VA 23234, Phone (800) 448-3636, (www.acfenvironmental.com).
- Mount Vernon, OH 43050, Phone (800) 591-2284, (www.dandyproducts.com). d. Dandy Bag: With curb filter as required. Manufactured by DANDY PRODUCTS, 1095 Harcourt Road, Mount Vernon, OH 43050, Phone (800) 591-2284, (www.dandyproducts.com).

c. <u>Dandy Sack</u>: With curb filter as required. Manufactured by DANDY PRODUCTS, 1095 Harcourt Road,

e. Sediquard Filter: With Sediquard curbquard as required. Available from ERO-TEX, N94 W14330 Garwin Mace Drive, Menomonee Falls, WI 53051, Phone (866) 437-6839, (www.ero-tex.net).

2. Storm Sewer Inlet Protection (areas with no pedestrian or vehicle traffic): Emergency overflow is

- equired. Take care to protect the catch basin curb—box from additional sediment escaping over the top of these devices while still allowing for emergency overflow. a. Road Drain Top Slab: Model RD 23 (fits rough opening for 2'x3' inlet), Model RD 27 (fits rough opening for 27" inlet), or Model CG 3067 (fits Neenah Casting with 35-1/4"x17-3/4" dimensions). Manufactured by WIMCO, 799 Theis Drive, Shakopee, MN, 55379, Phone (952) 233-3055,
- www.roaddrain.com. Do not use in public right-of-way. b. <u>InfraSafe Sediment Control Barrier</u>: Install geotextile sock on the outside of the barrier in order to trap additional fines. Standard frames are available to fit 24" to 30" diameter and 2'x3' openings. Distributed by ROYAL ENTERPRISES AMERICA, 30622 Forest Boulevard, Stacy, MN, 55079,
- Phone (651) 462-1766, (www.royalenterprises.com). Do not use in public right-of-way. c. <u>Rock Snake/Rock Sock/Rock Log/Rock Tube</u>: Use only for inlets after pavement is in place. Silt Sifter Tubes distributed by WESTERN FIBER COMPANY, PO Box 22665, Bakersfield, CA 93390, Phone (661) 854-5556, (www.westernfiber.com). Do not use in public right-of-way.
- 3. Topsoil: Topsoil used for finish grading of areas to be turfed or planted shall meet the requirements f MNDOT Standard Specification 3877 for topsoil borrow modified to contain no more than 35% sand. Topsoil shall be reasonably free of subsoil, heavy clay, coarse sand, stones, and other objects over 51 mm (2 inches) in diameter; and without plants, roots, sticks, and other objectionable material.

4. Geotextile Fabric for Subgrade Stabilization (if required): MNDOT Standard Specification 3733 Type V

- 5. Supporting Posts for Siltfence: 51 mm (2 inch) square or larger hardwood, pine, or standard T— or -section steel posts. T- or U-section steel posts shall weigh not less than 1.8602 kg per meter (1.25 lb per lineal foot). Posts shall have a minimum length of 1524 mm (5 feet). Posts shall have projections to facilitate fastening the fabric and prevent slippage.
- 6. <u>Siltfence Fabric</u>: MNDOT Standard Specification 3886 self supporting silt fence. Furnish in a continuous rall in order to avoid splices. Geotextile fabric shall be uniform in texture and appearance and have no defects, flaws, or tears. The fabric shall contain sufficient ultraviolet (UV) ray inhibitor and stabilizers to provide a minimum two-year service life outdoors. Fabric color shall be international orange.
- 7. <u>Aggregate for Temporary Rock Construction Entrance</u>: 25 mm (1 inch) to 50 mm (2 inch) diameter rock, MNDOT Standard Specification 3137 CA-1, CA-2, or CA-3 Coarse Aggregate, or equal.
- 8. <u>Geotextile Fabric for Temporary Rock Construction Entrance</u>: MNDOT Standard Specification 3733 Type V permeable geotextile fabric material.

9. Aggregate for Block and Rock Sediment Filter: 25 mm (1 inch) to 50 mm (2 inch) diameter rock,

- NOT Standard Specification 3137 CA-1, CA-2, or CA-3 Coarse Aggregate, or equal. 10. Block and Rock Inlet Filters: Block and Rock Inlet Filters consist of apen-care concrete masonry blocks, wire screen with 12 mm (0.5 inch) openings, and washed rack. Place open-core concrete masonry blocks lengthwise on their sides around the catchbasin inlet. Place wire screen around the perimeter to the top of the block barrier before the rock is placed. The screen acts to prevent the rocks from being washed through the blocks. Place rock against the wire mesh to the top of the blocks. Use 25 mm (1 inch) to 50 mm (2 inch) diameter rock, MNDOT Standard Specification 3137 CA-1, CA-2,
- 11. Concrete Block for Block and Rock Inlet Filter: Standard units with nominal face dimensions of 16 x 8

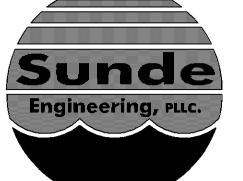
CA-3, or equal Coarse Aggregate. Install two courses of 8" blocks in order to form a barrier height

- 12. Wire Screen for Block and Rock Inlet Filter: 12 mm (0.5 inch) openings
- 13. Bales: Tightly bound bales of unrotted hay, straw, or other grass locally available from recent cuttings. 🕆 4. <u>Biodegradable Erosion Control Blankets</u>: In accordance with MNDOT Standard Specification 3885.
- 15. Erosion Control Matting: LandLok TRM 450 Turf Reinforcement Mat manufactured by Propex, Inc. (www.goeotextile.com), or approved equal soil erosion control matting. 16. Staples: Staples used to anchor erasion control blankets shall be U—shaped, 3 mm diameter or
- shall have a length of 250 mm (10 inches) or more from top to bottom after bending. 17. <u>Bio-Logs</u>: Curlex Sediment Log, as manufactured by American Excelsior Company (www.curlex.com), or approved equal. Excelsior fibers shall be weed seed free, TYPE III 9-inch (23-cm) diameter. Excelsion color shall be standard (natural). Netting at each end of the log shall be secured to assure fiber

heavier steel wire. The span width at the crown shall be a minimum of 25 mm (1 inch). Staples



Check you standard



CIVIL AND ENVIRONMENTAL ENGINEERING SERVICES 10830 NESBITT AVENUE SOUTH BLOOMINGTON, MINNESOTA 55437 (952) 881-3344 TELEPHONE (952) 881-1913 FAX

VERIZON

notes for water distribution, this specification conflicts

BLOOMINGTON, MN

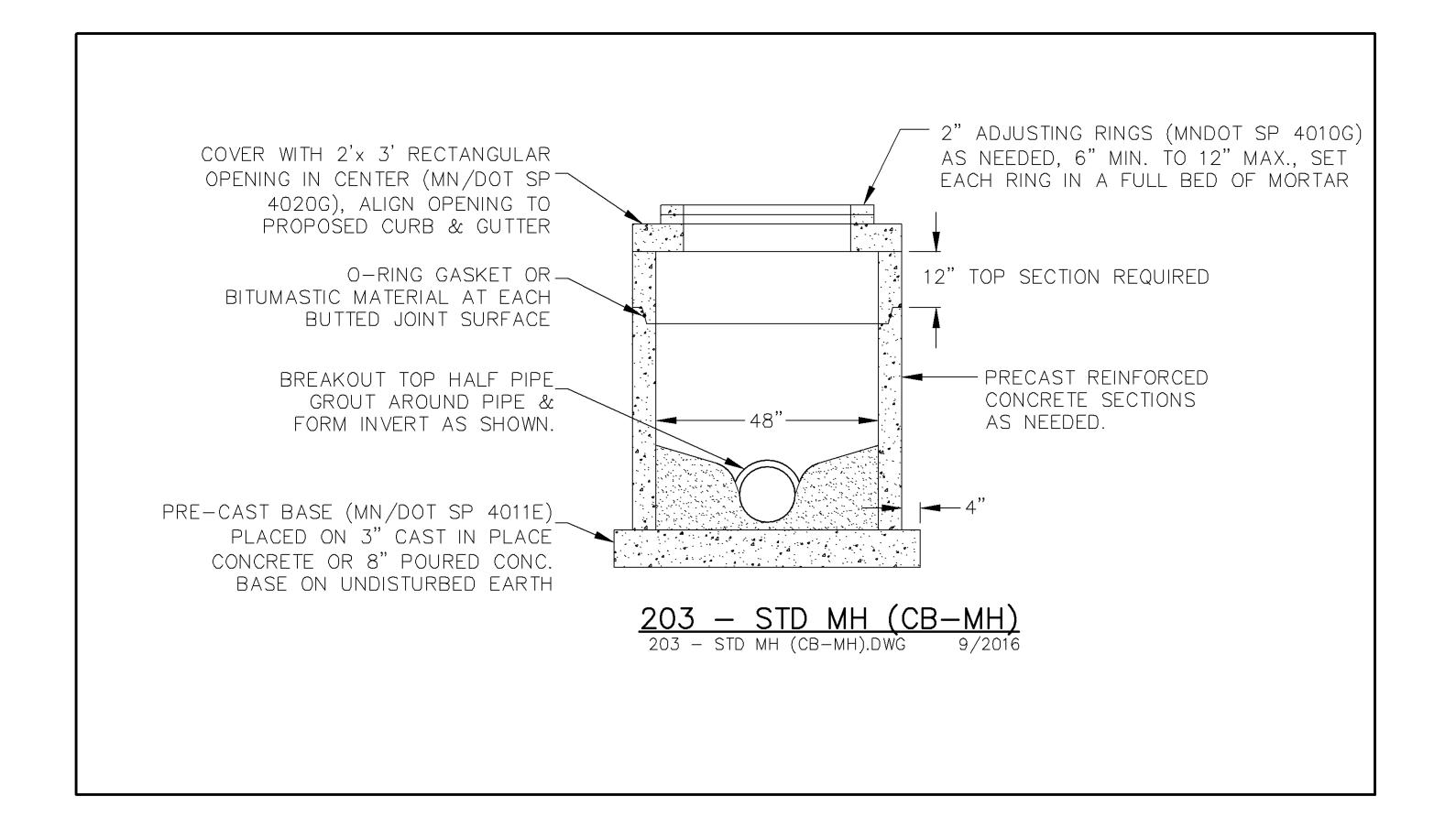
REVISION 6/26/20 ORIGINAL PLAN DATE 7/24/20 60% SET 8/21/20 90% SET

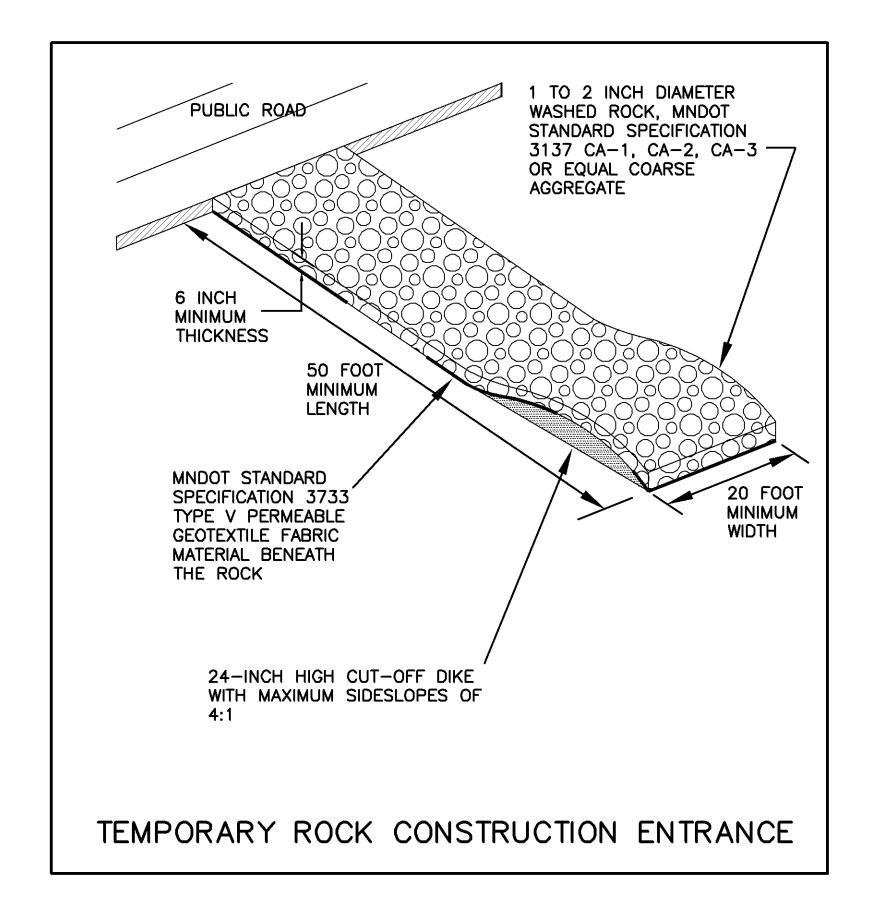
I HEREBY CERTIFY THAT THIS PLAN. SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

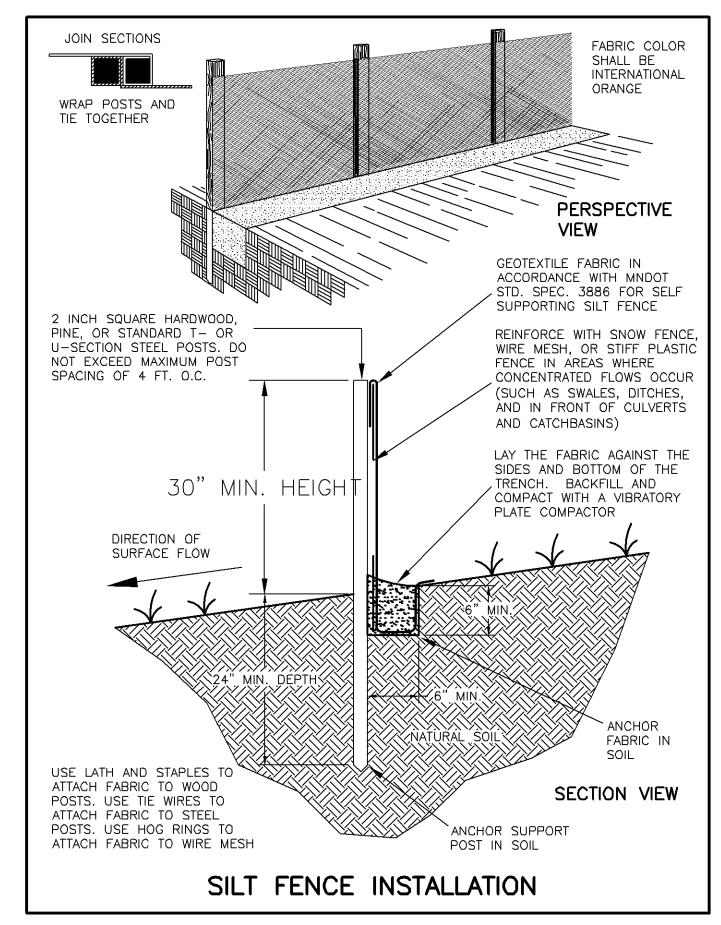
Mike R. Kettler DATE: 6/26/20 REG. NO.: 40425 INFORMATION: PROJECT NO.: APPROVED BY:

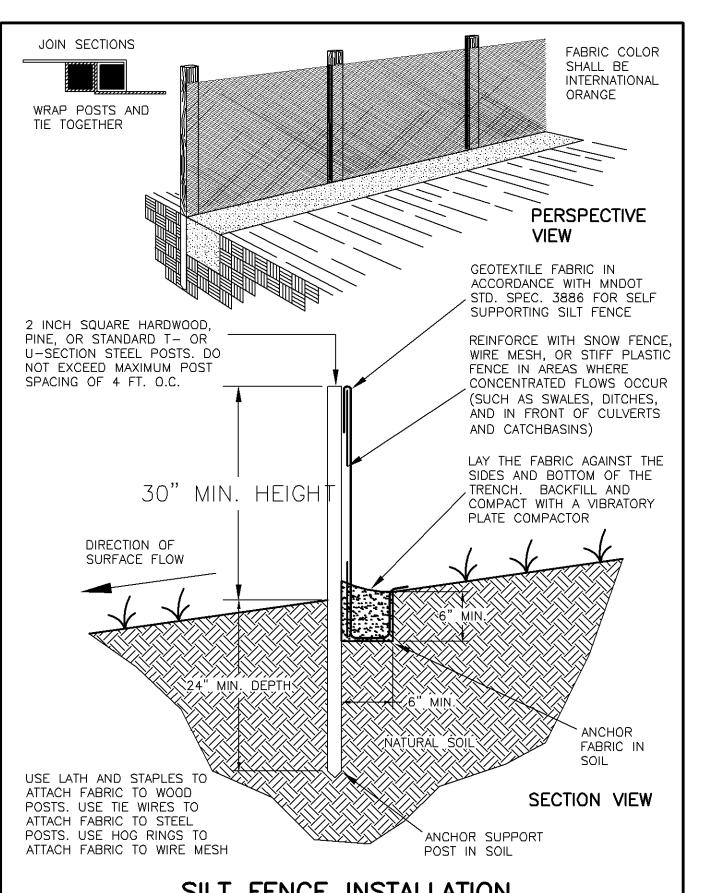
> **NOTES AND DETAILS**

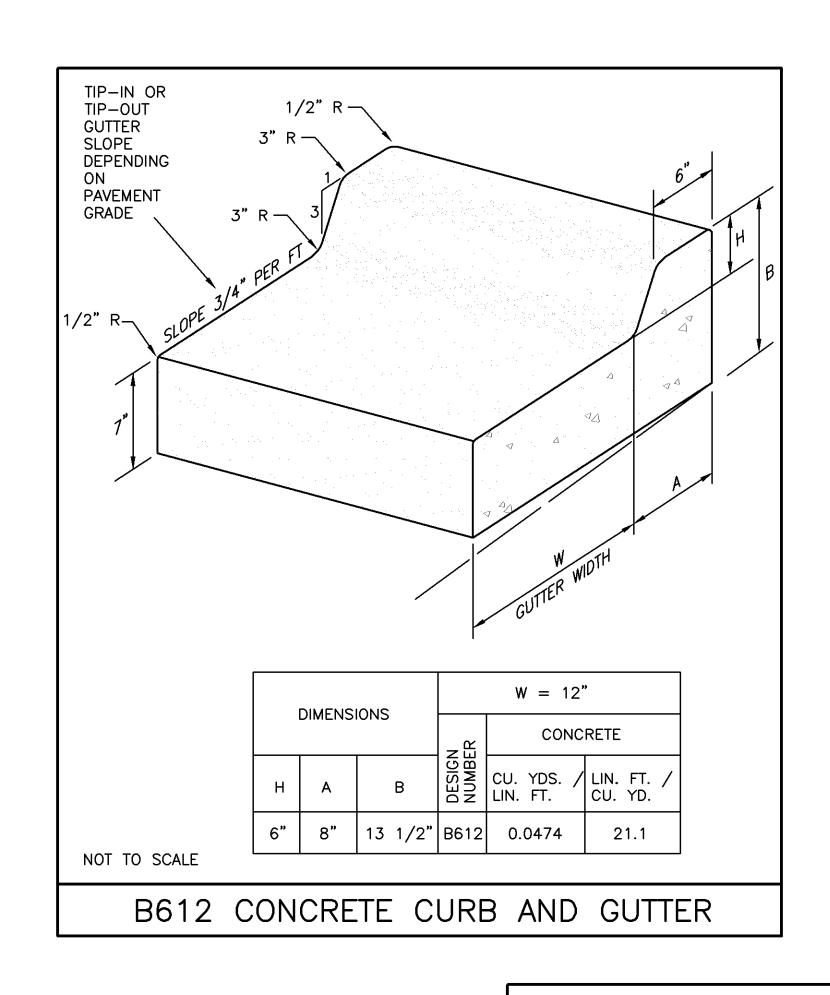
DRAWING: C:\Users\Kettler\Desktop\VERIZON WIRLESS 2020-CURRENT WORKING DRAWINGS\05677c10.dwg LAYOUT: C3 XREF: siteplan; XREF: 200174900_XREF SITE BASE; XREF: 200174900_XREF ARCH BASE; XREF: 200174900_XREF LEC BASE #05-677 T. , R. , S.



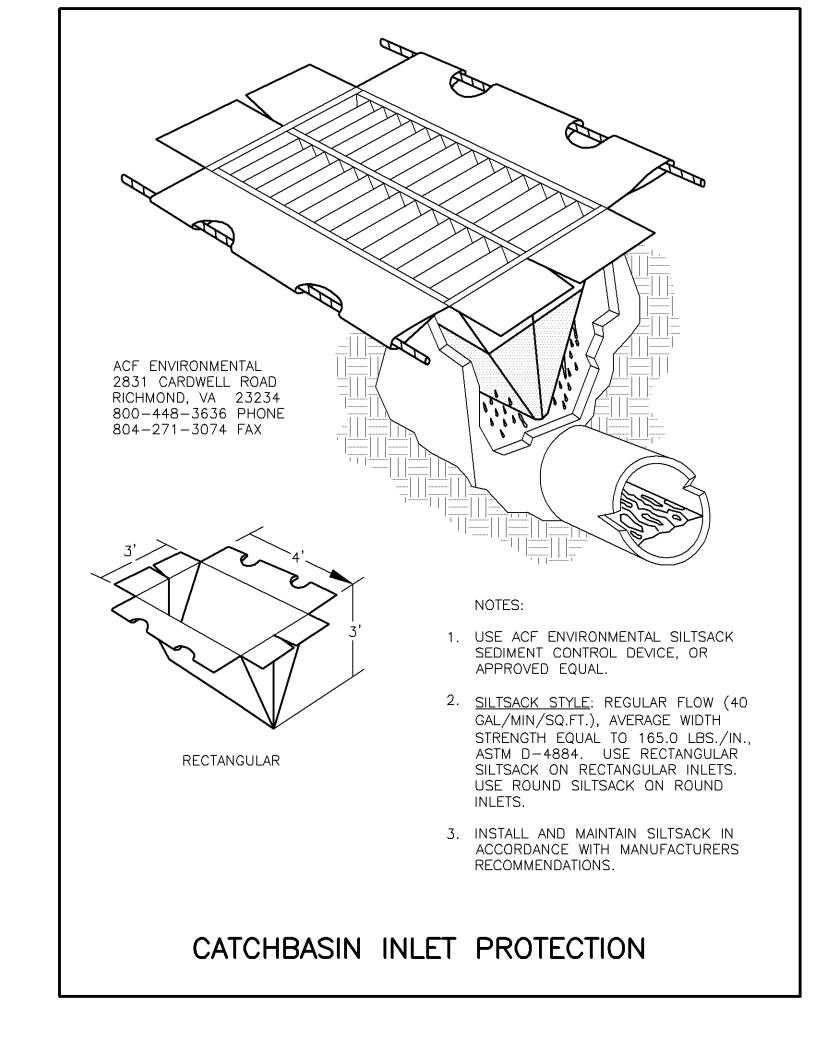


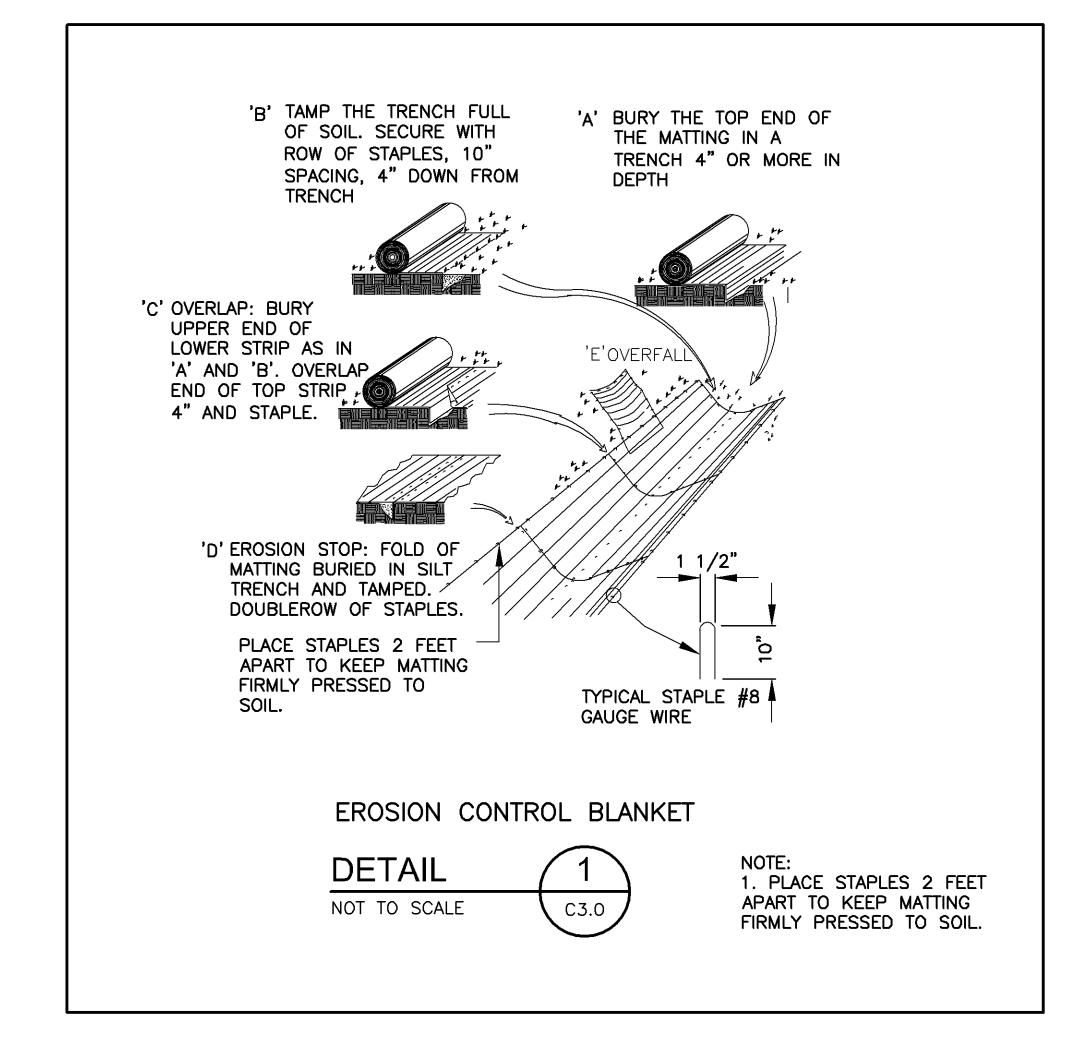


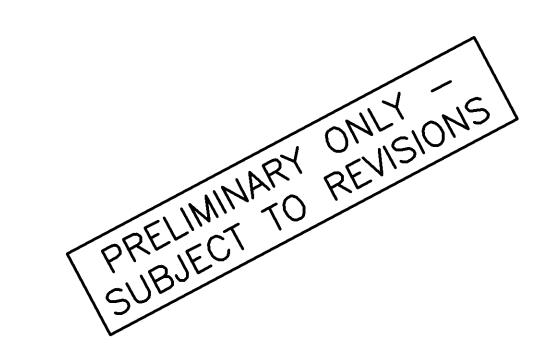


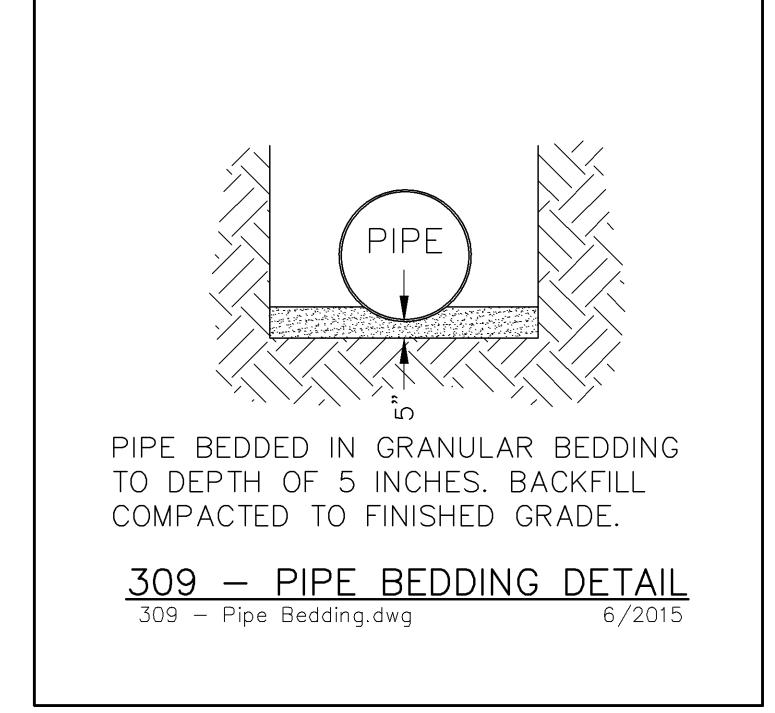


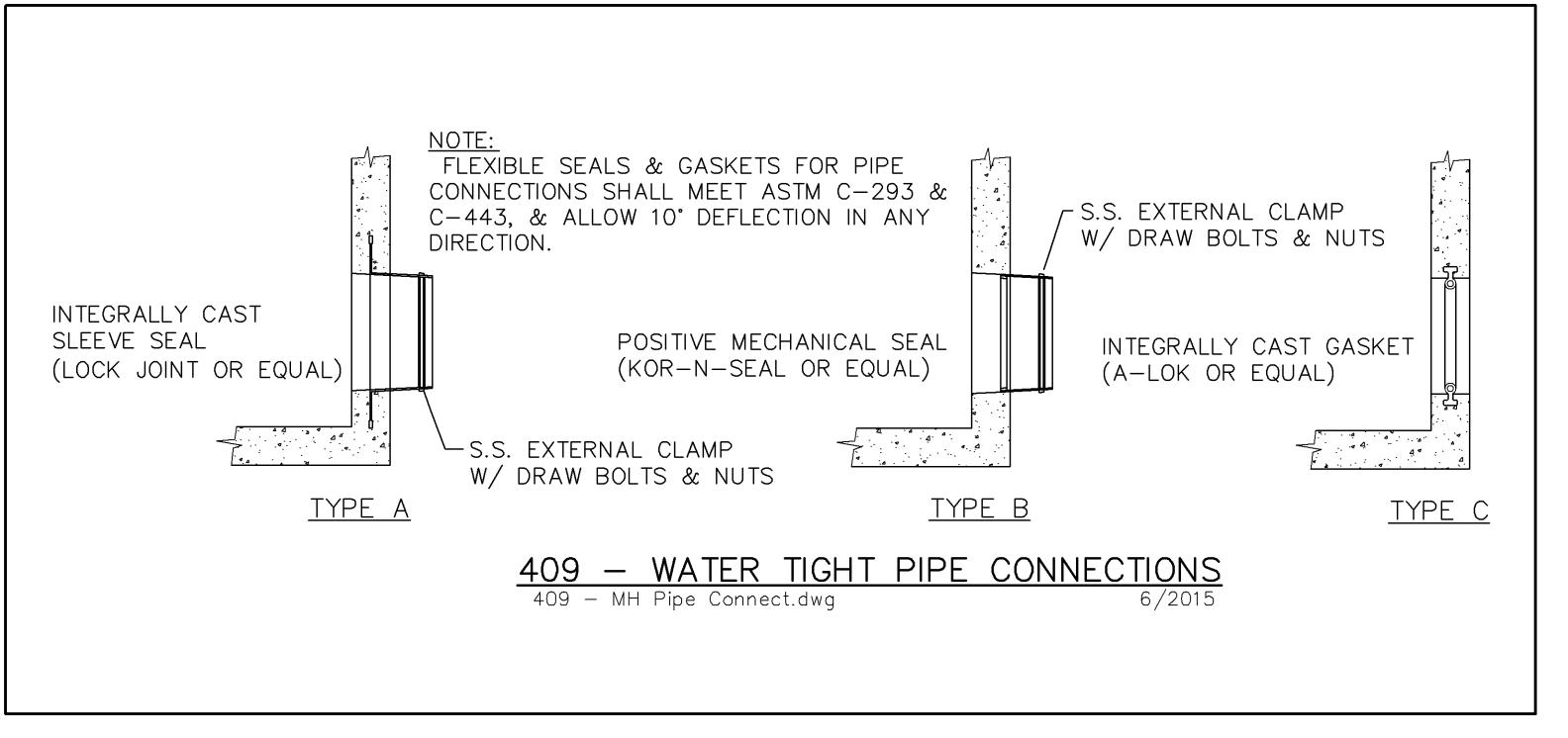
#05-677 T., R., S.













VERIZON WIRELESS

BLOOMINGTON, MN

REVISION 6/26/20 ORIGINAL PLAN DATE 7/24/20 60% SET 8/21/20 90% SET

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.

Mike R. Kettler DATE: 6/26/20 REG. NO.: 40425 INFORMATION: PROJECT NO.: 05-677 APPROVED BY: MK DESCRIPTION:

DETAILS

EXISTING CONDITIONS & SITE REMOVAL NOTES

SITE REMOVAL NOTES

- EXISTING SITE INFORMATION WAS PROVIDED BY OTHERS ACTUAL FIELD CONDITIONS MAY VARY. FIELD VERIFY UTILITY LOCATIONS AND ELEVATIONS PRIOR TO CONSTRUCTION.
- 2. THE LOCATIONS OF EXISTING UTILITIES SHOWN ON THIS PLAN HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE LANDSCAPE ARCHITECT ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. PRIOR TO THE START OF DEMOLITION ACTIVITY, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES FOR ONSITE LOCATIONS OF EXISTING UTILITIES. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT EXISTING UTILITIES OR STRUCTURES LOCATED AT THE WORK SITE.
- 3. CONTRACTOR TO VERIFY THE LOCATION OF UNDERGROUND UTILITIES PRIOR TO BEGINNING ANY CONSTRUCTION BY CALLING GOPHER STATE ONE-CALL AT 651-454-0002 (METRO) OR 1-800-252-1166 (OUT-STATE).
- 4. THE CONTRACTOR SHALL COORDINATE WITH RESPECTIVE UTILITY COMPANIES PRIOR TO THE REMOVAL AND/OR RELOCATION OF UTILITIES. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANY CONCERNING PORTIONS OF WORK WHICH MAY BE PERFORMED BY UTILITY COMPANY'S FORCES AND FEES WHICH ARE TO BE PAID TO THE UTILITY COMPANY FOR THEIR SERVICES. THE CONTRACTOR IS RESPONSIBLE FOR PAYING FEES AND CHARGES.
- 5. ALWAYS VERIFY BENCHMARK ELEVATIONS BETWEEN TWO BENCHMARKS.
- 6. REMOVAL ITEMS BECOME THE PROPERTY OF THE CONTRACTOR UNLESS SPECIFIED OTHERWISE. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING DEBRIS FROM THE SITE AND DISPOSING THE DEBRIS IN A LAWFUL MANNER PER LOCAL GOVERNING AGENCIES. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING PERMITS REQUIRED FOR DEMOLITION AND DISPOSAL. FACILITIES TO BE REMOVED SHALL BE UNDERCUT TO SUITABLE MATERIAL AND BROUGHT TO GRADE WITH SUITABLE COMPACTED FILL MATERIAL PER THE SPECIFICATIONS.
- 7. PRIOR TO DEMOLITION, EROSION CONTROL DEVICES ARE TO BE INSTALLED WHERE NECESSARY AND OBTAIN AN NPDES STORM WATER PERMIT. REFER TO CIVIL FOR EROSION CONTROL.
- 8. DAMAGE TO REMAINING EXISTING CONDITIONS WILL BE REPLACED AT CONTRACTOR'S EXPENSE AND SHALL BE EQUAL TO OR EXCEED THE QUALITY OF CONSTRUCTION PRIOR TO DAMAGE.
- CONCRETE PAVEMENT, SIDEWALKS, CURB AND GUTTER, AND OTHER POURED CONCRETE ITEMS ARE TO BE REMOVED TO AN GRADING EXISTING EXPANSION OR CONTRACTION JOINT.
- 10. CONTRACTOR SHALL LIMIT SAW-CUT AND PAVEMENT REMOVAL TO ONLY THOSE AREAS WHERE IT IS REQUIRED AS SHOWN ON THESE CONSTRUCTION PLANS. IF DAMAGE IS INCURRED ON THE SURROUNDING PAVEMENT, ETC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ITS REMOVAL AND REPAIR AT NO ADDITIONAL COST TO THE OWNER. BITUMINOUS PAVEMENT REMOVALS ARE TO BE MADE WITH A VERTICAL SAW CUT OR TO A NEAT MILLED EDGE.
- 11. CONTRACTOR SHALL PRESERVE VEGETATION NOT TO BE REMOVED BY CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR RE-SEEDING OR SODDING AREAS DISTURBED BY CONSTRUCTION.
- 12. LOCATION AND ELEVATIONS OF IMPROVEMENTS TO BE MET (OR AVOIDED) SHALL BE CONFIRMED BY THE CONTRACTOR THROUGH FIELD EXPLORATIONS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL REPORT TO THE LANDSCAPE ARCHITECT DISCREPANCIES BETWEEN THEIR MEASUREMENTS AND THESE PLANS. CONTRACTOR SHALL ALSO MAKE EXPLORATION EXCAVATIONS AND LOCATE EXISTING UNDERGROUND UTILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO PLANS IF REVISIONS ARE NECESSARY BECAUSE OF ACTUAL LOCATION OF EXISTING FACILITIES. CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN AND OTHER EXISTING LINES NOT OF RECORD OR NOT SHOWN ON THESE PLANS.
- 13. EXISTING UTILITIES TO REMAIN IN PLACE UNLESS SPECIFICALLY MARKED ON THIS SHEET.

SITE AND LANDSCAPE NOTES

SITE PREPARATION NOTES

- . CONTRACTOR SHALL INSPECT THE SITE AND BECOME FAMILIAR WITH EXISTING CONDITIONS RELATING TO THE NATURE AND SCOPE OF WORK.
- CONTRACTOR SHALL VERIFY PLAN LAYOUT AND BRING TO THE ATTENTION OF THE LANDSCAPE ARCHITECT DISCREPANCIES WHICH MAY COMPROMISE THE DESIGN OR INTENT OF THE LAYOUT.
- CONTRACTOR SHALL ASSURE COMPLIANCE WITH APPLICABLE CODES AND REGULATIONS GOVERNING THE WORK AND MATERIALS SUPPLIED.
- 4. CONTRACTOR SHALL PROTECT EXISTING ROADS, CURBS/GUTTERS, TRAILS, TREES, LAWNS AND SITE ELEMENTS 14. CONTRACTOR SHALL INSTALL CATCH BASIN EROSION DURING CONSTRUCTION OPERATIONS. DAMAGE TO SAME SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR SHALL VERIFY ALIGNMENT AND LOCATION OF UNDERGROUND AND ABOVE GRADE UTILITIES AND PROVIDE THE NECESSARY PROTECTION FOR SAME BEFORE CONSTRUCTION BEGINS (MINIMUM 10' CLEARANCE).
- 6. CONTRACTOR SHALL COORDINATE THE PHASES OF CONSTRUCTION AND PLANTING INSTALLATION WITH OTHER CONTRACTORS WORKING ON SITE.
- 7. UNDERGROUND UTILITIES SHALL BE INSTALLED SO THAT TRENCHES DO NOT CUT THROUGH ROOT SYSTEMS OF EXISTING TREES TO REMAIN.
- 8. EXISTING CONTOURS, TRAILS, VEGETATION, CURB/GUTTER AND OTHER ELEMENTS ARE BASED UPON INFORMATION SUPPLIED TO THE LANDSCAPE ARCHITECT BY OTHERS. CONTRACTOR SHALL VERIFY DISCREPANCIES PRIOR TO CONSTRUCTION AND NOTIFY LANDSCAPE ARCHITECT OF
- 9. HORIZONTAL AND VERTICAL ALIGNMENT OF PROPOSED WALKS, TRAILS OR ROADWAYS ARE SUBJECT TO FIELD ADJUSTMENT REQUIRED TO CONFORM TO LOCALIZED TOPOGRAPHIC CONDITIONS AND TO MINIMIZE TREE REMOVAL AND GRADING. CHANGES IN ALIGNMENT AND GRADES MUST BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO IMPLEMENTATION.

- 10. CONTRACTOR SHALL REVIEW THE SITE FOR DEFICIENCIES IN PLANTING SITE CONDITIONS WHICH MIGHT NEGATIVELY AFFECT PLANT ESTABLISHMENT, SURVIVAL OR WARRANTY. UNDESIRABLE SITE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO COMMENCEMENT OF
- CONTRACTOR IS RESPONSIBLE FOR ONGOING MAINTENANCE OF NEWLY INSTALLED MATERIALS UNTIL TIME OF SUBSTANTIAL COMPLETION. REPAIR OF ACTS OF VANDALISM OR DAMAGE WHICH MAY OCCUR PRIOR TO SUBSTANTIAL COMPLETION SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR.
- EXISTING TREES OR SIGNIFICANT SHRUB MASSINGS FOUND ON SITE SHALL BE PROTECTED AND SAVED UNLESS NOTED TO BE REMOVED OR ARE LOCATED IN AN AREA TO BE GRADED. QUESTIONS REGARDING EXISTING PLANT MATERIAL SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO REMOVAL.
- EXISTING TREES TO REMAIN, UPON DIRECTION OF LANDSCAPE ARCHITECT, SHALL BE FERTILIZED AND PRUNED TO REMOVE DEAD WOOD, DAMAGED AND RUBBING BRANCHES
- 14. CONTRACTOR SHALL PREPARE AND SUBMIT A WRITTEN REQUEST FOR THE SUBSTANTIAL COMPLETION INSPECTION OF LANDSCAPE AND SITE IMPROVEMENTS PRIOR TO SUBMITTING FINAL PAY REQUEST.
- 15. CONTRACTOR SHALL PREPARE AND SUBMIT REPRODUCIBLE AS-BUILT DRAWING(S) OF LANDSCAPE INSTALLATION, IRRIGATION AND SITE IMPROVEMENTS UPON COMPLETION OF CONSTRUCTION INSTALLATION AND PRIOR TO SUBSTANTIAL COMPLETION.
- SYMBOLS ON PLAN DRAWING TAKE PRECEDENCE OVER SCHEDULES IF DISCREPANCIES IN QUANTITIES EXIST. SPECIFICATIONS AND DETAILS TAKE PRECEDENCE OVER NOTES.

SOIL TESTING

- 1. CONTRACTOR SHALL OBTAIN A SOIL SAMPLE(S) FROM PROJECT SITE AND/OR SALVAGED TOPSOIL STOCKPILE AND SUBMIT TO INDEPENDENT TESTING AGENCY. ANALYSIS AND RECOMMENDATIONS FOR (INCLUDING BUT NOT LIMITED TO) MACRONUTRIENTS, MICRONUTRIENTS, COMPOSITION AND SOLUBLE SALTS SHALL BE PROVIDED.
- CONTRACTOR SHALL PROVIDE TWO SERIES OF TESTS: FIRST, PRIOR TO CONSTRUCTION: SECOND, AFTER SOIL IS AMENDED. PRIOR TO PLANTING.
- CONTRACTOR SHALL PROVIDE ANALYSIS RESULTS AND RECOMMENDATIONS TO THE LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO SOIL AMENDMENT AND PRIOR TO PLANTING.

- ROUGH GRADING AND FINISHED GRADING TO BE DONE BY OTHERS EXCEPT WHERE NOTED.
- GRADING LIMITS ARE DEFINED AS THE JUNCTURE OF PROPOSED GRADE WITH EXISTING GRADE UNLESS NOTED OTHERWISE.
- GRADING LIMITS AND LIMITS OF WORK SHOWN ON PLAN ARE ONLY APPROXIMATE AND MAY BE ADJUSTED IN FIELD BY LANDSCAPE ARCHITECT. WORK OUTSIDE OF THESE LIMITS WILL BE DONE AT LANDSCAPE CONTRACTORS EXPENSE UNLESS DIRECTED BY LANDSCAPE ARCHITECT OR OWNER IN WRITING.
- FILL/CUT AS NECESSARY TO PROVIDE A 1% MINIMUM GRADE AWAY FROM BUILDINGS WITHIN LIMITS OF CONSTRUCTION. SALVAGE TOPSOIL FROM THE EARTHWORK AREAS AS
- APPROPRIATE OR AS INDICATED ON PLANS AND STOCKPILE FOR REUSE. MAINTAIN A UNIFORM GRADE BETWEEN CONTOURS IN AREAS
- TO BE GRADED UNLESS NOTED OTHERWISE. ELEVATIONS, IF SHOWN ARE FINISHED ELEVATIONS. SPOT
- ELEVATIONS TAKE PRECEDENCE OVER CONTOURS. ADD EROSION CONTROL MEASURES IF GRADES GREATER
- SPECIFICATIONS FOR EROSION CONTROL 9. CONTRACTOR SHALL CONTACT PUBLIC UTILITIES FOR LOCATION OF UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. LANDSCAPE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE IF DAMAGED DURING CONSTRUCTION

THAN 3:1 OR IF CONDITIONS WARRANT. REFER TO MNDOT

- AT NO ADDITIONAL COST TO THE OWNER. 10. CONTRACTOR SHALL PROVIDE PROPER EROSION CONTROL MEASURES AS REQUIRED TO ENSURE THAT EROSION IS KEPT TO AN ABSOLUTE MINIMUM.
- 11. PROVIDE TEMPORARY COVERING FOR CATCH BASINS AND MAN HOLES UNTIL FINISHED GRADING IS COMPLETE.
- 12. CONTRACTOR SHALL CONSTRUCT DRAINAGE BASINS AS NEEDED.
- PERIMETER SILT FENCE AND ROCK CONSTRUCTION ENTRANCES SHALL BE INSTALLED PRIOR TO CONSTRUCTION. REFER TO STATE SPECIFICATIONS FOR AGGREGATE BASE AND SILT FENCE.
- CONTROL MEASURES PER LOCAL POLLUTION CONTROL AGENCY AND SPECIFICATIONS.
- WITHIN TWO WEEKS OF FINISHED SITE GRADING, DISTURBED AREAS SHALL BE STABILIZED WITH SEED, SOD, MULCH OR ROCK BASE.
- 16. CONTRACTOR SHALL MAINTAIN EROSION CONTROL MEASURES, INCLUDING THE REMOVAL OF ACCUMULATED SILT IN FRONT OF SILT FENCES AND EXCESS SEDIMENT IN PROPOSED CATCH BASINS, FOR THE DURATION OF CONSTRUCTION.
- 17. CONTRACTOR SHALL REMOVE EROSION CONTROL MEASURES AFTER VEGETATION IS ESTABLISHED AND DISPOSE OF OFF
- 18. CONTRACTOR SHALL ENSURE THAT SOIL CONDITIONS AND COMPACTION ARE ADEQUATE TO ALLOW FOR PROPER DRAINAGE AROUND THE CONSTRUCTION SITE. UNDESIRABLE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO BEGINNING OF WORK. IT SHALL BE THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY TO ENSURE PROPER SURFACE AND SUBSURFACE DRAINAGE IN PLANTING AREAS.

- SPRING PLANT MATERIAL INSTALLATION IS FROM APRIL 15 TO JUNE 15.
- PLANT SCHEDULE 2. FALL CONIFEROUS PLANTING IS ACCEPTABLE FROM AUGUST 21 DECIDUOUS TREES TO SEPTEMBER 30.
- 3. FALL DECIDUOUS PLANTING IS ACCEPTABLE FROM AUGUST 15 UNTIL NOVEMBER 15.
- 4. ADJUSTMENTS TO PLANTING DATES MUST BE APPROVED IN
- 5. STAKE PROPOSED PLANTING LOCATIONS PER PLAN FOR REVIEW AND APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO

WRITING BY THE LANDSCAPE ARCHITECT

- 6. PLANT MATERIAL SHALL COMPLY WITH THE CURRENT EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, ANSI Z60.1. UNLESS NOTED OTHERWISE, DECIDUOUS SHRUBS SHALL HAVE AT LEAST 5 CANES AT THE SPECIFIED HEIGHT ORNAMENTAL TREES SHALL HAVE NO 'V' CROTCHES AND SHALL BEGIN BRANCHING NO LOWER THAN 3' FEET ABOVE THE ROOT BALL. STREET AND BOULEVARD TREES SHALL BEGIN BRANCHING NO LOWER THAN 6' ABOVE PAVED SURFACE.
- INSTALL PLANT MATERIAL AFTER FINAL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE
- INSTALL PLANT MATERIALS PER PLANTING DETAILS (SHEET
- SUBSTITUTION REQUESTS FOR PLANT MATERIAL TYPE & SIZE SHALL BE SUBMITTED TO THE LANDSCAPE ARCHITECT FOR CONSIDERATION PRIOR TO BIDDING. SUBSTITUTIONS AFTER BIDDING MUST BE APPROVED BY LANDSCAPE ARCHITECT AND ARE SUBJECT TO CONTRACT ADJUSTMENTS.
- 10. ADJUSTMENTS IN LOCATION OF PROPOSED PLANT MATERIALS MAY BE NEEDED IN FIELD. LANDSCAPE ARCHITECT MUST BE NOTIFIED PRIOR TO ADJUSTMENT OF PLANTS.
- 11. FERTILIZE PLANT MATERIAL UPON INSTALLATION WITH DRIED BONE MEAL AND OTHER APPROVED FERTILIZER MIXED IN WITH THE PLANTING SOIL (PER THE MANUFACTURER'S INSTRUCTIONS) OR TREAT FOR SUMMER AND FALL INSTALLATION WITH AN APPLICATION OF GRANULAR 10-0-5 OF 12 OZ. PER 2.5" CALIPER TREE AND 6 OZ. PER SHRUB WITH AN ADDITIONAL APPLICATION OF 10-0-10 THE FOLLOWING SPRING
- 12. INSTALL 18" DEPTH OF PLANTING SOIL IN AREAS RECEIVING GROUND COVER, PERENNIALS, AND ANNUALS. PLANTING SOIL SHALL CONSIST OF MnDOT 3877-B MODIFIED TO CONTAIN A MAXIMUM OF 30% SAND. A PH OF 7.1 MAX. OR AS OTHERWISE SPECIFIED IN THE PROJECT SPECIFICATIONS MANUAL.
- 13. TREE WRAPPING MATERIAL SHALL BE PAPER APPLIED FROM TRUNK FLARE TO FIRST BRANCH. WRAP SMOOTH-BARKED DECIDUOUS TREES PLANTED IN THE FALL PRIOR TO DECEMBER 1 AND REMOVE WRAPPING AFTER MAY 1.
- 14. APPLY PRE-EMERGENT HERBICIDE (PREEN OR APPROVED EQUAL) IN ANNUAL, PERENNIAL, AND SHRUB BEDS FOLLOWED BY SHREDDED HARDWOOD MULCH. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION REGARDING USE OF HERBICIDES.

MULCHING

- INSTALL 4" DEEP FINELY SHREDDED HARDWOOD MULCH RINGS AT NEWLY PLANTED CONIFEROUS & DECIDUOUS TREES WITH NO MULCH IN DIRECT CONTACT WITH TREE TRUNK
- INSTALL 3" DEEP FINELY SHREDDED HARDWOOD MULCH RINGS AT SHRUB PLANTING AREAS WITH NO MULCH IN DIRECT CONTACT WITH SHRUB STEMS.
- INSTALL 3" DEEP FINELY SHREDDED MULCH IN PERENNIAL PLANTING BEDS. REMOVE ALL MULCH FROM STEMS OF PERENNIALS; PLANT STEMS SHALL NOT BE IN DIRECT CONTACT WITH MULCH.

WATERING

- PLANTED MATERIALS SHALL BE WATERED BY TEMPORARY MEANS UNTIL PLANTS ARE ESTABLISHED.
- TEMPORARY WATERING MEANS, METHODS, AND SCHEDULING SHALL BE THE CONTRACTOR'S RESPONSIBILITY. REMOVE TEMPORARY WATERING EQUIPMENT UPON PLANT ESTABLISHMENT

WARRANTY

WARRANTY NEW PLANT MATERIAL THROUGH ONE CALENDAR YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION. NO PARTIAL ACCEPTANCE WILL BE CONSIDERED.

TURF NOTES

OTHERWISE.

SOD AREAS DISTURBED DUE TO GRADING UNLESS NOTED

- 2. WHERE SOD ABUTS PAVED SURFACES, FINISHED GRADE OF SOD/SEED SHALL BE HELD 1" BELOW SURFACE ELEVATION OF TRAIL, SLAB, CURB, ETC.
- SOD SHALL BE LAID PARALLEL TO THE CONTOURS AND SHALL HAVE STAGGERED JOINTS. ON SLOPES STEEPER THAN 3:1 OR IN DRAINAGE SWALES, SOD SHALL BE STAKED SECURELY WITH WOODEN STAKES; NO METAL STAKES ARE ALLOWED.
- 4. UNLESS NOTED OTHERWISE, THE APPROPRIATE DATES FOR SPRING SEED & SOD PLACEMENT IS FROM THE TIME GROUND HAS THAWED TO JUNE 15.
- 5. FALL SODDING IS ACCEPTABLE FROM AUGUST 15 TO NOVEMBER 1. FALL SEEDING IS ACCEPTABLE FROM AUGUST 15 4. CONTRACTOR SHALL CONFIRM COMPLETE LIMITS OF TO SEPTEMBER 15. ADJUSTMENTS TO SOD/SEED PLANTING DATES MUST BE APPROVED IN WRITING BY THE LANDSCAPE ARCHITECT.
- NO SOD NETTING ALLOWED ON SITE

IRRIGATION NOTES

CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AN IRRIGATION LAYOUT PLAN AND SPECIFICATION THAT MEETS THE REQUIREMENTS OF THE PROVIDED PERFORMANCE SPECIFICATION AS PART OF THE SCOPE OF WORK. SUBMIT LAYOUT PLAN AND SPECIFICATIONS FOR APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO ORDER AND/OR CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT SODDED/SEEDED AND PLANTED AREAS ARE IRRIGATED PROPERLY, INCLUDING THOSE AREAS DIRECTLY AROUND AND ABUTTING BUILDING FOUNDATION.

| CODE | QTY | BOTANICAL / COMMON NAME

CODE QTY BOTANICAL / COMMON NAME

| CODE | QTY | BOTANICAL / COMMON NAME

CODE QTY BOTANICAL / COMMON NAME

QTY

EVERGREEN TREES

DECIDUOUS SHRUBS

 \otimes

EVERGREEN SHRUBS

PERENNIALS

ACER X FREEMANII 'JEFFSRED' TM / AUTUMN BLAZE MAPLE

QUERCUS MACROCARPA / BURR OAK

PICEA GLAUCA 'DENSATA' / BLACK HILLS SPRUCE

COTONEASTER LUCIDUS / SHINY COTONEASTER

TAXUS X MEDIA 'TAUNTONII' / TAUNTON'S YEW

HOSTA X 'ROYAL STANDARD' / PLANTAIN LILY

BOTANICAL / COMMON NAME

SPIRAEA X BUMALDA 'NEON FLASH' / NEON FLASH SPIREA

TAXUS CUSPIDATA `FASTIGIATE` / UPRIGHT JAPANESE YEW

| 127 | RUDBECKIA FULGIDA SULLIVANTII `GOLDSTURM` / BLACK-EYED SUSAN | #1

PINUS PONDEROSA / PONDEROSA PINE

RHUS TYPHINA / STAGHORN SUMAC

QUERCUS RUBRA / RED OAK

- CONTRACTOR SHALL FIELD VERIFY WATER SUPPLY, VOLUME, PRESSURE AND LOCATION FOR SYSTEM TAP PRIOR TO SYSTEM DESIGN.
- CONTRACTOR SHALL FIELD VERIFY AND INSPECT EXISTING IRRIGATION SYSTEM LAYOUT, EQUIPMENT, CONDITION AND OPERABILITY PRIOR TO SYSTEM DESIGN.
- IRRIGATION WITH LANDSCAPE ARCHITECT PRIOR TO SUPPLYING SHOP DRAWINGS.
- 6. CONTRACTOR SHALL CONTACT LANDSCAPE ARCHITECT FOR INSPECTION AND APPROVAL OF AREAS RECEIVING DRIP IRRIGATION PRIOR TO INSTALLATION OF MULCH.
- 6. CONTRACTOR SHALL PROVIDE THE OWNER AND LANDSCAPE ARCHITECT WITH AS-BUILT DRAWINGS, DETAILED SYSTEM OPERATION INSTRUCTIONS AND AN IRRIGATION SCHEDULE APPROPRIATE TO THE PROJECT SITE CONDITIONS AND PLANTED MATERIAL GROWTH REQUIREMENTS.

CONT.

NOTES

CONT. NOTES

6 HT. B&B FULL FORM TO GRADE

NOTES

CONT. SPACE 3'-0" O.C.

CONT. SPACE 3'-0" O.C.

CONT. SPACE 3'-0" O.C.

CONT. | SPACE 5`-0" O.C

NOTES

CONT. SPACE 3'-0" O.C.

CONT. SPACE 2`-0" O.C.

CONT. PLANT AS INDICATED ON PLAN

CONT. NOTES

CONT.

CONT.

SINGLE LEADER, WELL BRANCHED

SINGLE LEADER, WELL BRANCHED

SINGLE LEADER, WELL BRANCHED

FULL FORM TO GRADE

SIZE

SIZE

SIZE

Keep irrigation outside of easements and ROW

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Signature

REMARKS

REMARKS

SPACING | REMARKS

SPACING REMARKS

REMARKS

| 36" o.c.

36" o.c.

|120" o.c.

60" o.c.

36" o.c.

24" o.c.

SPACING

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08/21/2020

09/02/2020

SUBCONSULTANT

CAD DWG FILE DESIGNED BY: DRAWN BY: CHECKED BY: COPYRIGHT: APRIL, 2020

Date

PROJECT NO:

↑ REV DESCRIPTION

NETWORK COMPLIANCE SUBMITTALS

ISSUED FOR CITY REVIEW

SHEET TITLE LANDSCAPE NOTES & SCHEDULE

200174900 STAMP

L003

EXISTING LANDSCAPE SURVEY 170 EXISTING TREES 290 EXISTING SHRUBS Morrison Hershfield
Mission Critical W OLD SHAKOPEE RD (CO RD NO 1) 1455 LINCOLN PARKWAY, SUITE 500 ATLANTA, GA 30346 TEL:770.379.8500 FAX:770.379.8501 WWW.MORRISONHERSHFIELD.COM SEE SHEET L006 FOR CITY OF BLOOMINGTON LANDSCAPE REQUIREMENTS AND PLANT MATERIAL TABULATIONS SUBCONSULTANT 310 South 4th Avenue, Suite 7050 Minneapolis, MN 55415 p: 612.332.7522 **EXISTING** RETENTION POND 2222 **EXISTING BUILDING** EXISTING BUILDING ISSUED FOR CITY REVIEW I hereby certify that this document was prepared by me or under my direct supervision and that I am a duly licensed 200174900 STAMP PROJECT NO: Landscape Architect under the laws of the State of Minnesota. CAD DWG FILE: DRAWN BY: CHECKED BY: Registration# COPYRIGHT: Date Signature **EXISTING** LANDSCAPE SURVEY NORTH **SCALE:** 1'' = 30'

W OLD SHAKOPEE RD (CO RD NO 1) **EXISTING** RETENTION POND (0)000 PERENNIALS, AND MULCH.
REMOVE AND RESET EDGER - SAVE BOULDERS/RIP RAP FOR REUSE. 20000 **EXISTING BUILDING** – REMOVE SHRUBS, PERENNIALS, AND MULCH. REMOVE AND RESET EDGER 000000 **EXISTING** BUILDING – REMOVE SHRUBS, PERENNIALS, MULCH, AND EDGER

LANDSCAPE LEGEND AND PLANT TABULATIONS

170 EXISTING TREES (SHEET L004)

TREES REMOVED

City Code requires 1 tree per 2,500 square feet of lot area. Given the size of the property,—157 trees are required. The plan is deficient as currently depicted. 15 TREES ADDED (SHEET L150)

121 TOTAL TREES

290 EXISTING SHRUBS (SHEET L004)

101 SHRUBS REMOVED

415 SHRUBS ADDED (SHEET L150)

604 TOTAL SHRUBS

City Code requires 1 shrub per 1,000 square feet of lot area. Given the size of the property, __392 trees are required. The plan meets required the shrub quantity.

CITY OF BLOOMINGTON LANDSCAPE REQUIREMENTS

1 TREE PER 2,500 SF SITE AREA 1 SHRUB PER 1,000 SF SITE AREA

175,228 SF TOTAL SITE AREA

175,288 / 2,500 = **70 TREES REQUIRED 121 TREES PROVIDED**

175,288 / 1,000 = **175 SHRUBS REQUIRED 604 SHRUBS PROVIDED**

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NORTH

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SCALE: 1'' = 30'

Landscape Architect under the laws of the

LANDSCAPE DEMO AND PRESERVATION PLAN

W OLD SHAKOPEE RD (CO RD NO 1) Keep all plantings out of existing right of way and AREA 'B' AREA 'C' SEE SHEET L251 BUILDING **ADDITION** Two "new" parking islands do not meet the 8-foot minimum curb to curb requirement. Widen both to minimum width and add a tree to one. AREA 'A' **EXISTING** SEE SHEET L250 BUILDING EXISTING BUILDING

NOTE: REFER TO SHEET L006 FOR CITY OF BLOOMINGTON LANDSCAPE REQUIREMENTS AND SITE LANDSCAPE TABULATIONS

PLANTING LEGEND

EXISTING TREE

EXISTING SHRUB

PLANT SCHEDULE OVERALL			
DECIDUOUS TREES	CODE	QTY	BOTANICAL / COMMON NAME
	QM	1	QUERCUS MACROCARPA / BURR OAK
DECIDUOUS SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME
\$	RT	8	RHUS TYPHINA / STAGHORN SUMAC

SEE SHEET L500 FOR PLANTING DETAILS

verizon√

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DF/ DAMON FARBER LANDSCAPE ARCHITECTS

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Minneapolis, MN 55415 p: 612.332.7522

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OOMINGTON MSC EXPANSION
10801 BUSH LAKE ROAD
BLOOMINGTON, MN.

RK COMPLIANCE SUBMITTALS

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ISSUED FOR CITY REVIEW 09/02/2020

PROJECT NO: 200174900

CAD DWG FILE:

DESIGNED BY: MJR

DRAWN BY: MJR

CHECKED BY: TW

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OVERALL LANDSCAPE
PLAN

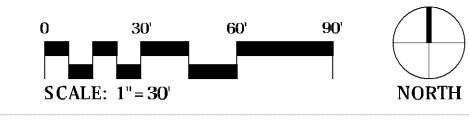
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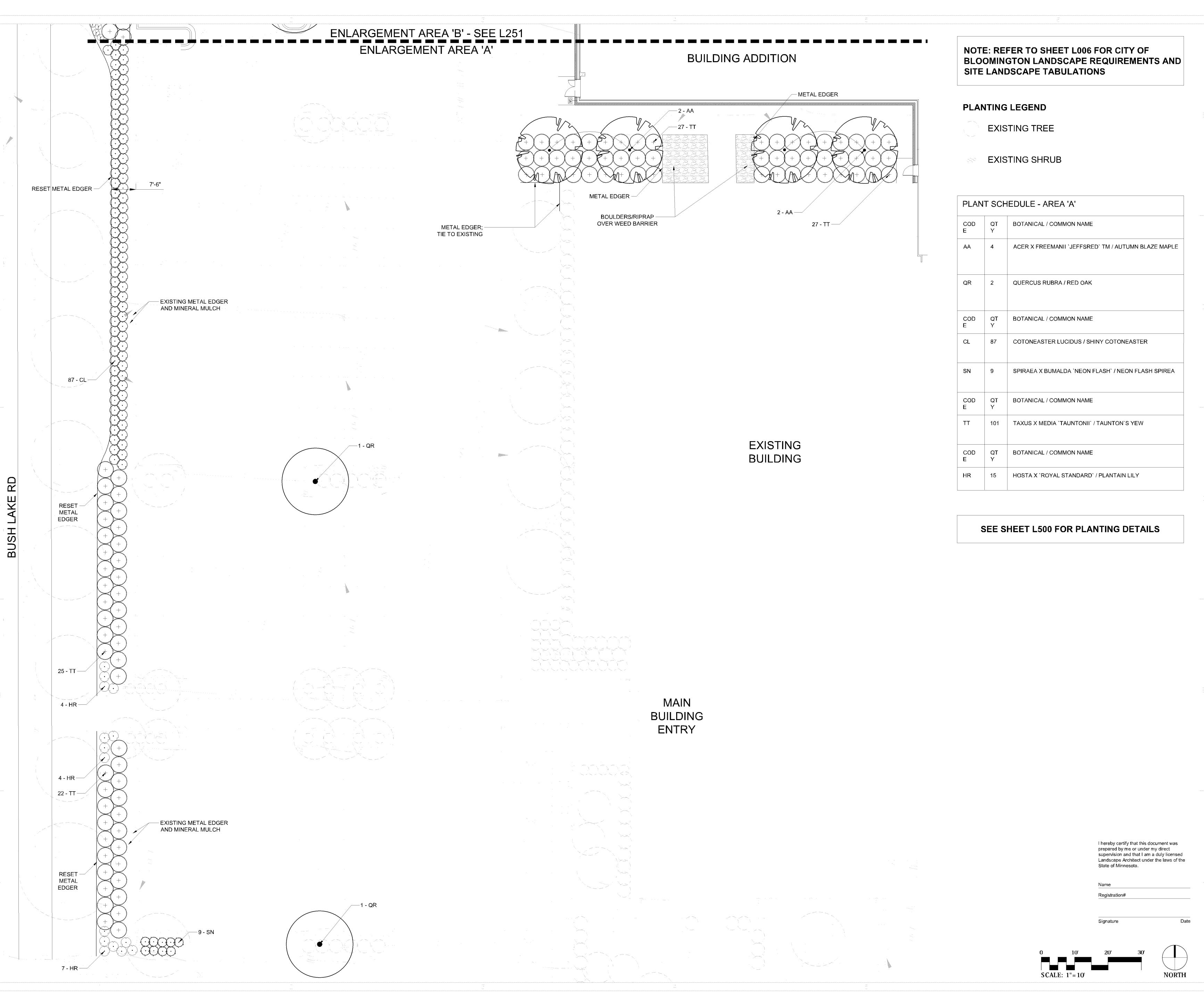
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NETWORK COMPLIANCE SUBMITTALS

NETWORK COMPLIANCE SUBMITTALS

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08/21/2020

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09/02/2020

PROJECT NO: 200174900

CAD DWG FILE:

DESIGNED BY: MJR

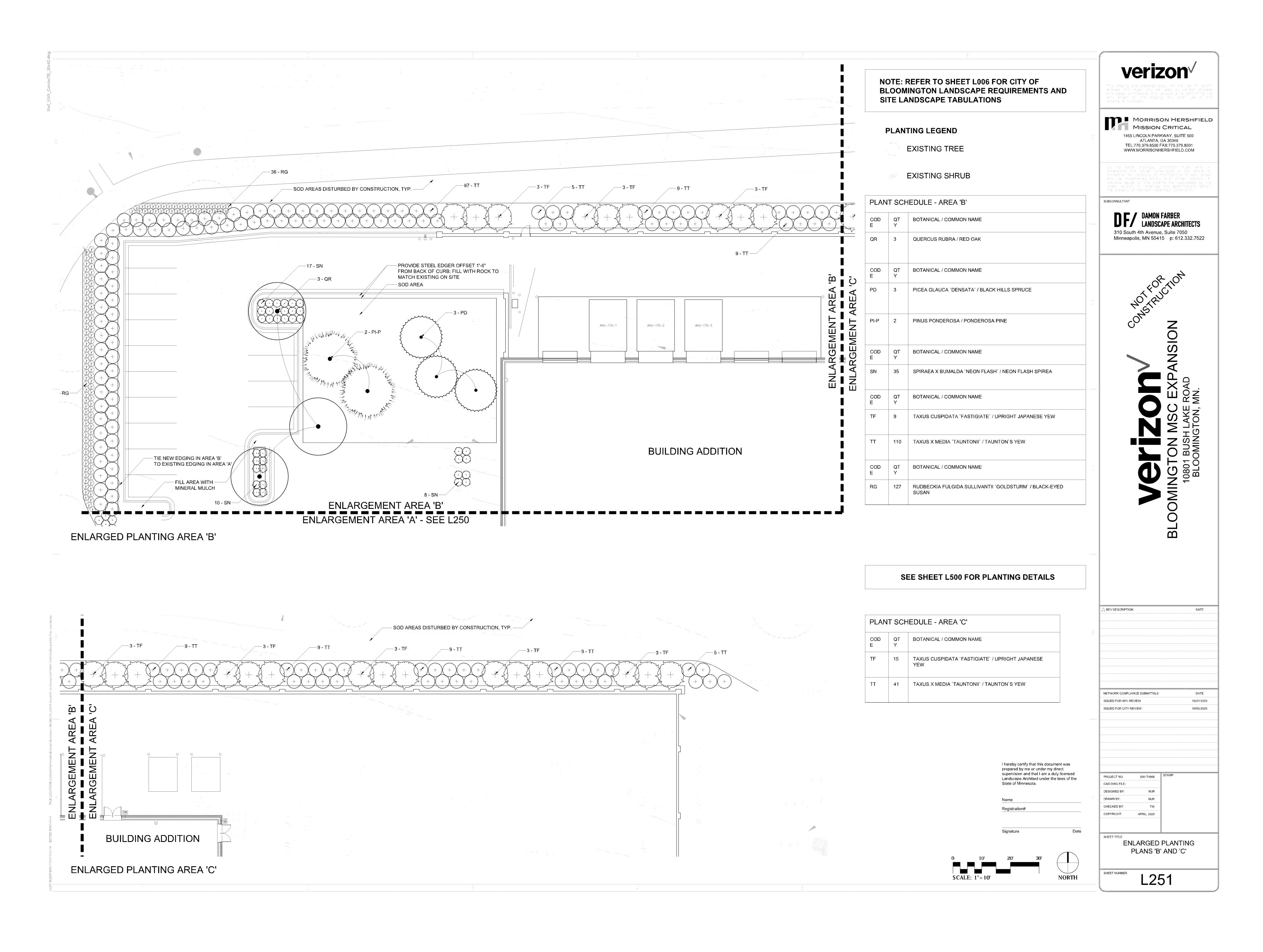
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ENLARGED PLANTING
PLAN 'A'

L250



- CONTAINER GROWN MATERIAL SHALL HAVE ROOTSH AND LOOSENED - PLANTING SOIL FOR PERENNIALS - SCARIFY SIDES AND BOTTOM OF ENTIRE BED WITH SPADE BY HAND TO BIND WITH PLANTING SOIL UNDISTURBED SUBGRADE — 3" MULCH; DO NOT PLACE IN CONTACT WITH PLANT STEM P-20 122-04 - APPLICATION OF PRE-EMERGENT - 3" MULCH; DO NOT PLACE IN CONTACT WITH SHRUB STEM CONTAINER GROWN MATERIAL SHALL HAVE ROOTS HAND LOOSENED - EDGE CONDITION VARIES; REFER TO PLAN - PLANTING SOIL FOR SHRUBS SCARIFY SIDES AND BOTTOM OF ENTIRE BED WITH SPADE BY HAND TO BIND WITH PLANTING SOIL UNDISTURBED SUBGRADE P-20 122-02 CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TREES IN A PLUMB POSITION THROUGHOUT THE WARRANTY PERIOD. WRAP TREE TRUNKS ONLY UPON APPROVAL BY LANDSCAPE ARCHITECT. SEE SPECIFICATION SECTION RELATED TO PLANTS AND SOIL EACH TREE SHALL BE PLANTED SUCH THAT THE ROOT FLARE IS VISIBLE AT THE TOP OF THE ROOT BALL. IF THE ROOT FLARE IS NOT VISIBLE, THE SOIL SHALL BE REMOVED IN A LEVEL MANNER FROM THE ROOT BALL TO WHERE THE FIRST MAIN ORDER ROOT (1/2" DIA. OR LARGER) EMERGES FROM THE TRUNK. SET MAIN ORDER ROOT 1" HIGHER THAN ADJACENT GRADE. DO NOT COVER TOP OF ROOT BALL WITH SOIL. - PROVIDE & INSTALL RODENT PROTECTION. 1/2" HARDWIRE CLOTH MESH CYLINDER, 8" DIA. OR GREATER X 36" HEIGHT; STAKE IN PLACE PER PLANTING PIT TO BE TWO TO FIVE TIMES THE DIAMETER OF THE ROOT BALL, SLOPED — EDGE CONDITION VARIES; REFER TO PLAN PREPARED PLANTING SOIL PER SPEC SCARIFY SIDES OF TREE PIT WITH SPADE BY HAND TO BIND WITH PREPARED PLANTING SOIL

riangle REV DESCRIPTION NETWORK COMPLIANCE SUBMITTALS ISSUED FOR CITY REVIEW 200174900 STAMP PROJECT NO: Landscape Architect under the laws of the CAD DWG FILE:

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SHEET TITLE

Date

APRIL, 2020

LANDSCAPE

DETAILS

L500

DRAWN BY:

09/02/2020

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4 DETAIL - PLANT SPACING

3/4" = 1'-0"

GRID SPACING

LAYOUT PLAN

NOTE: REFER TO PLANTING SCHEDULE PLANT SPACING.

1/2 PLANT SPACING UNLESS

OTHERWISE NOTED ON

TRIANGULAR SPACING

LAYOUT PLAN

, PLANTING SCHEDULE & PLAN

DETAIL - TREE PLANTING

1/2 PLANT SPACING UNLESS OTHERWISE NOTED ON PLANTING SCHEDULE & PLAN

P-20 122-01

TAMP SOIL AROUND ROOT BALL BASE FIRMLY

REMOVE BURLAP, TWINE, ROPE AND WIRE FROM

WITH FOOT PRESSURE SO THAT ROOT BALL

PLACE ROOT BALL ON UNDISTURBED OR

- 4" ORGANIC MULCH; DO NOT PLACE MULCH IN

DOES NOT SHIFT

COMPACTED SOIL

TOP HALF OF ROOT BALL

CONTACT WITH TREE TRUNK

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