INDEX OF SHEETS

TITLE SHEET SP0 DEMO PLAN SPI SITE PLAN SITE PLAN (KEYNOTES) SPI.I

SP2 GRADING PLAN SP4 UTILITY PLAN SP4.I UTILITY SPECS SP5 SITE PLAN DETAILS SITE PLAN DETAILS

LIST OF STANDARD ABBREVIATIONS

AUGER BORING

BENCHMARK

BACK OF CURB

BOTTOM OF CURB

BOTTOM OF RAMP

BOTTOM OF STEPS

BOTTOM OF WALL

CATCH BASIN

CLEANOUT

CONCRETE

AVERAGE DAILY TRAFFIC

CORRUGATED METAL ARCH CULVERT

CORRUGATED METAL BOX CULVERT

CORRUGATED METAL PIPE

CORRUGATED PLASTIC PIPE

FINISHED FLOOR ELEVATION

HIGH DENSITY POLYETHYLENE PIPE

DENSE GRADED BASE

DUCTILE IRON PIPE

DOWNSTREAM

ELEVATION

FINISH GRADE

FIBER OPTIC

HIGH POINT

LINEAL FEET

LOW POINT

MANHOLE

NORTHEAST

NORTHWEST

PROPERTY LINE

POWER POLE

RAIL ROAD

SOUTH

STORM

RIGHT OF WAY

SOIL BORING

STORM SEWER

SOUTHWEST

TEST PIT

TYPICAL

TOP OF RAMP

TOP OF STEPS

TOP OF WALL

UPSTREAM

VARIES

WEST

TOP OF CURB

TO BE REMOVED

TOP NUT FIRE HYDRANT

SANITARY SEWER

OVERHEAD

NORTH

INLET

EDGE OF GRAVEL

HOT MIX ASPHALT

INVERT ELEVATION

MATCH EXISTING GRADE

POINT OF CURVATURE

POINT OF TANGENCY

POLYVINYL CHLORIDE PIPE

REINFORCED CONCRETE PIPE

TEMPORARY LIMITED EASEMENT

REINFORCED CONCRETE BOX CULVERT

EAST

TOTAL SHEETS = 9

AΒ

ADT

BM

BOC

BR

BW

CB

CMAC

CMBC

CMP

CO

CONC.

CPP

DGB

DIP

D/S

(E)

ELEV.

EOG

FFE

FG

F.0.

INL

HDPE

HMA

HP

LP

MEG

MH

(N)

(NE)

(NW)

OH

P/L

PP

PT

PVC

RCB

RCP

R/W

(S)

SB

SS

STM

(SW)

TC

TBR

TLE TNH

ΤP

TR

TYP.

TS

TW

U/S

VAR.

(W)

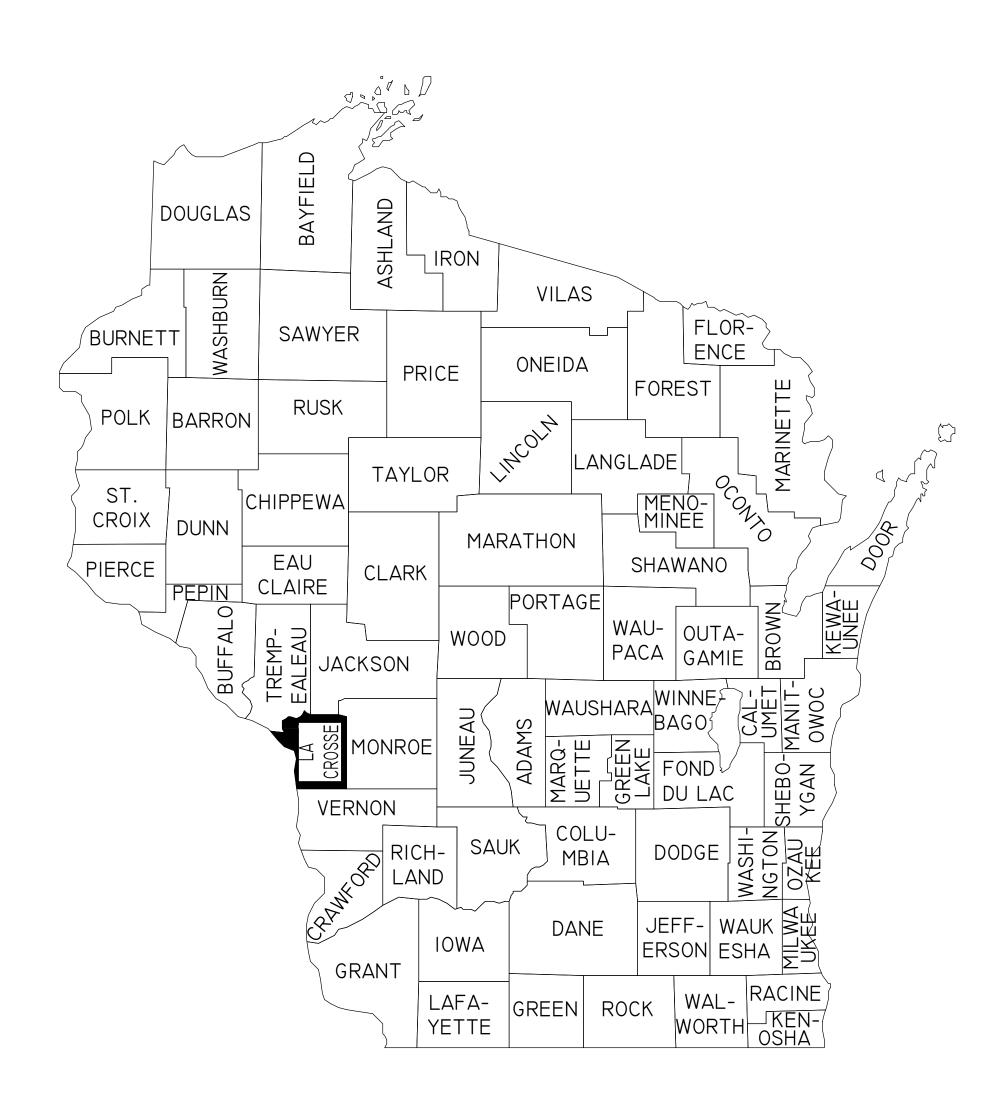
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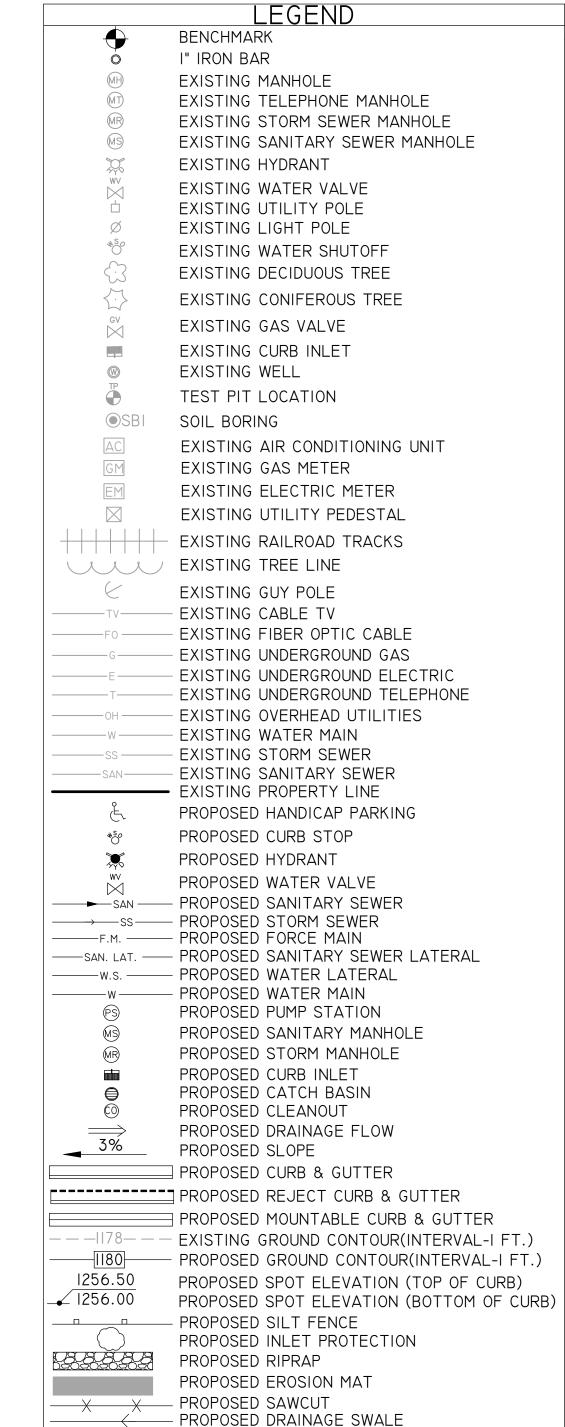
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REVIEW PLANS FOR:

KWIK TRIP #819

CITY OF LA CROSSE, LA CROSSE COUNTY, WISCONSIN







TOLL FREE: 811 OR (800) 242-8511 HEARING IMPAIRED: TDD (800)542-2289 EMERGENCY ONLY: (877) 500-9592 www.DiggersHotline.com



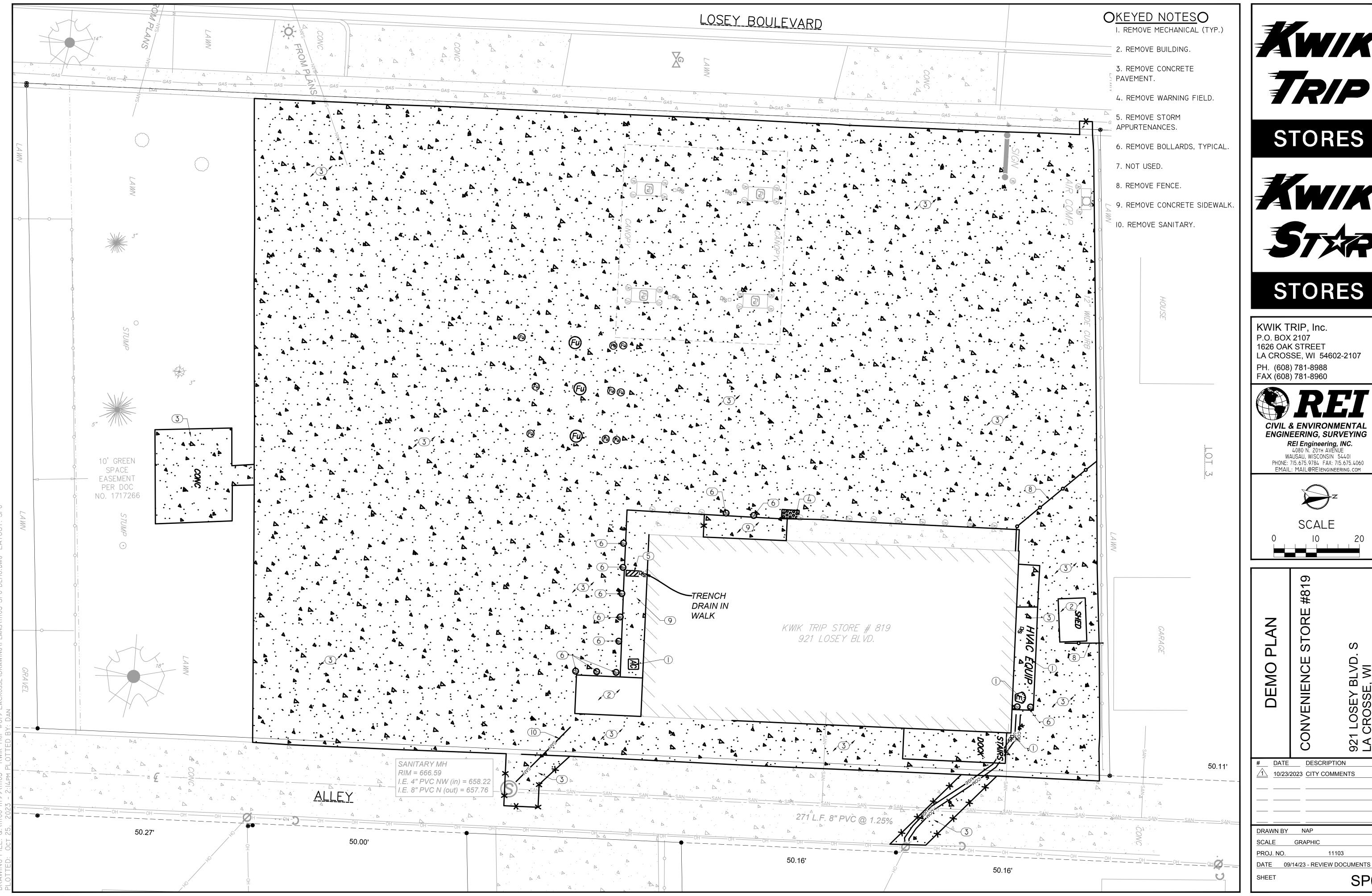
KUK TRIP STORES KUK **STORES** KWIK TRIP, Inc. P.O. BOX 2107 1626 OAK STREET LA CROSSE, WI 54602-2107 PH. (608) 781-8988 FAX (608) 781-8960 ENGINEERING, SURVEYING **REI Engineering, INC.** 4080 N. 20TH AVENUE WAUSAU, WISCONSIN 54401 PHONE: 715.675.9784 FAX: 715.675.4060

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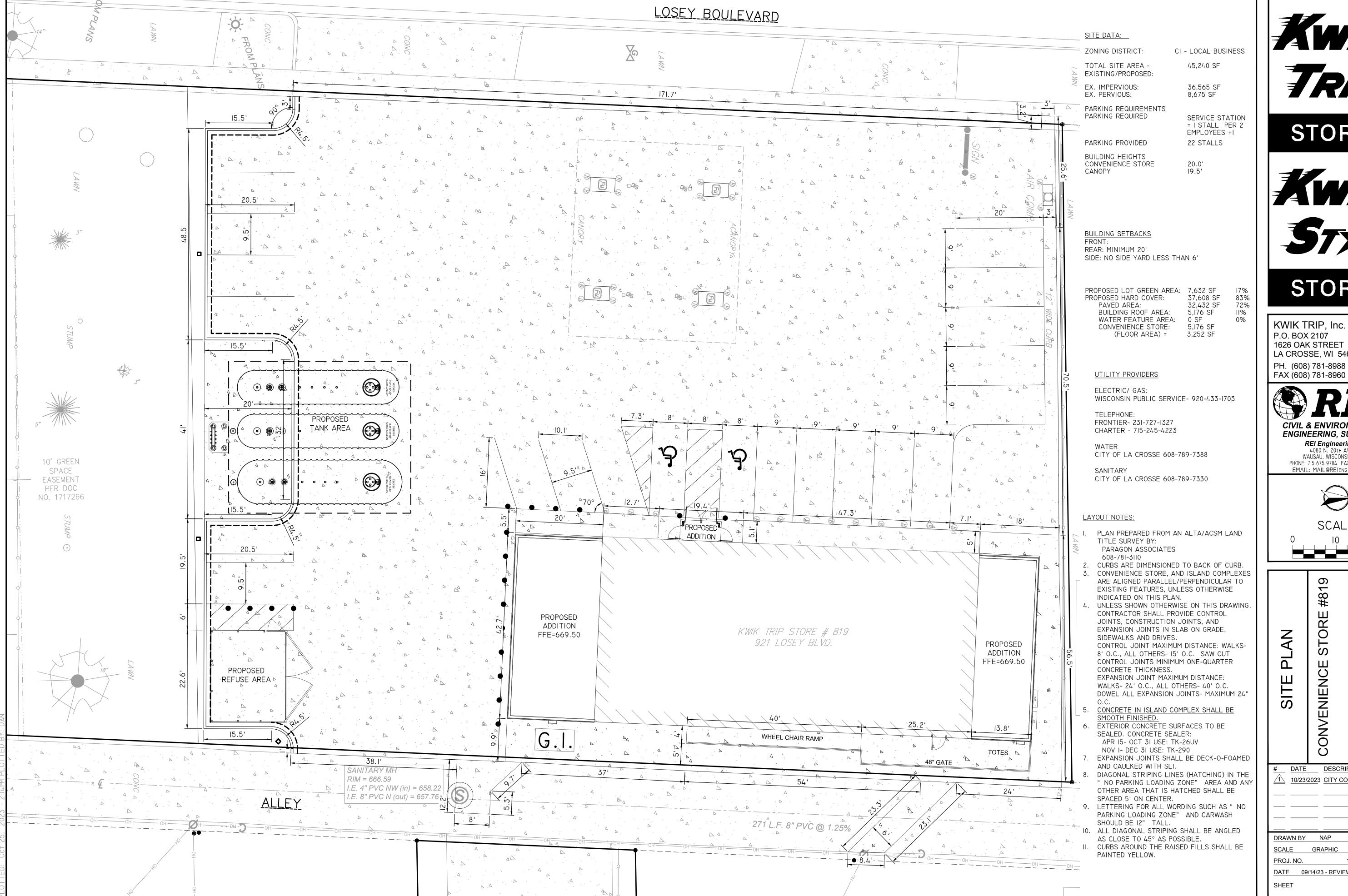
P.O. BOX 2107 1626 OAK STREET LA CROSSE, WI 54602-2107



REI Engineering, INC.
4080 N. 20TH AVENUE
WAUSAU, WISCONSIN 5440I
PHONE: 715.675.9784 FAX: 715.675.4060



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KWIK TRIP, Inc. P.O. BOX 2107 1626 OAK STREET LA CROSSE, WI 54602-2107 PH. (608) 781-8988



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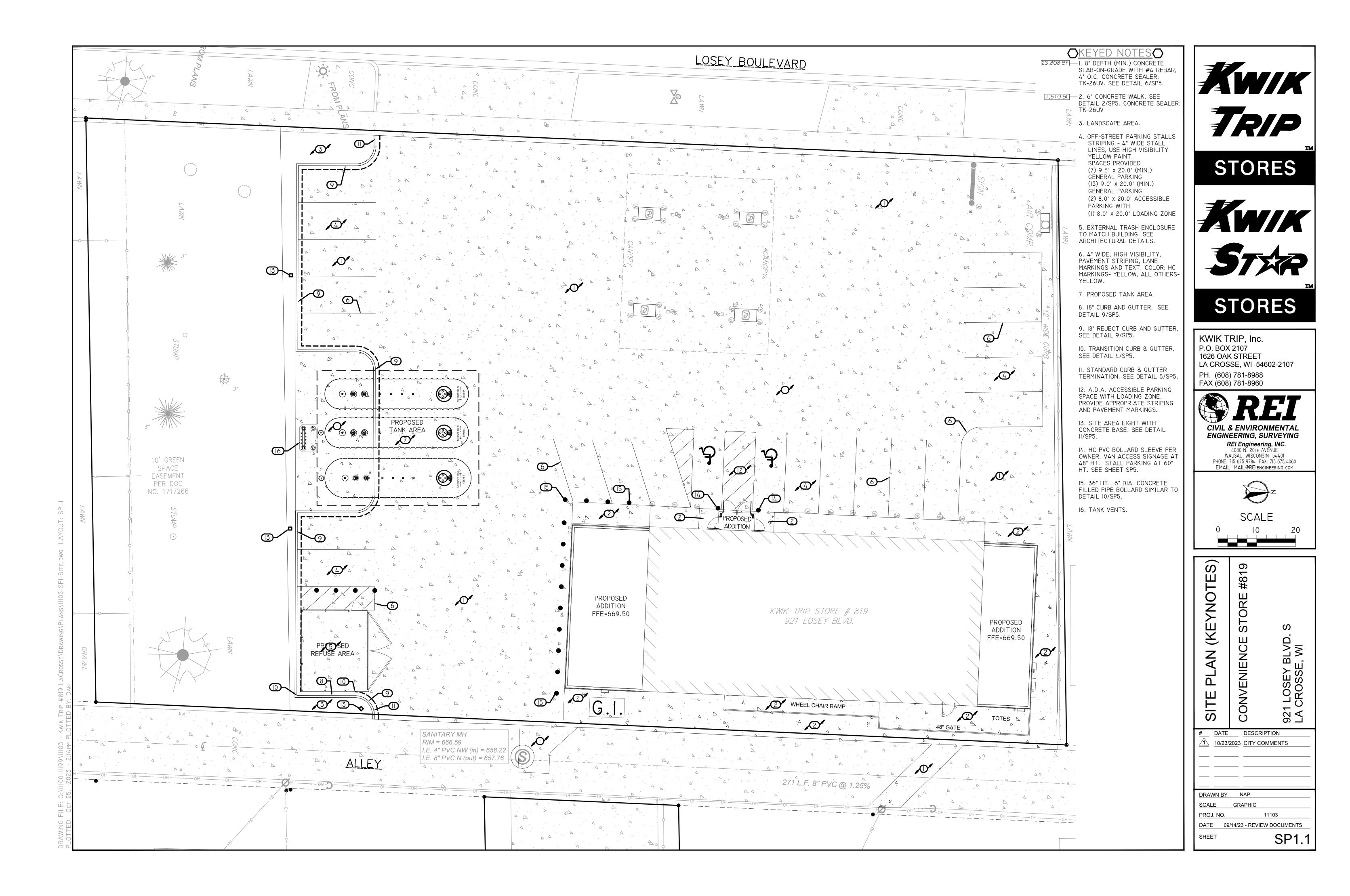


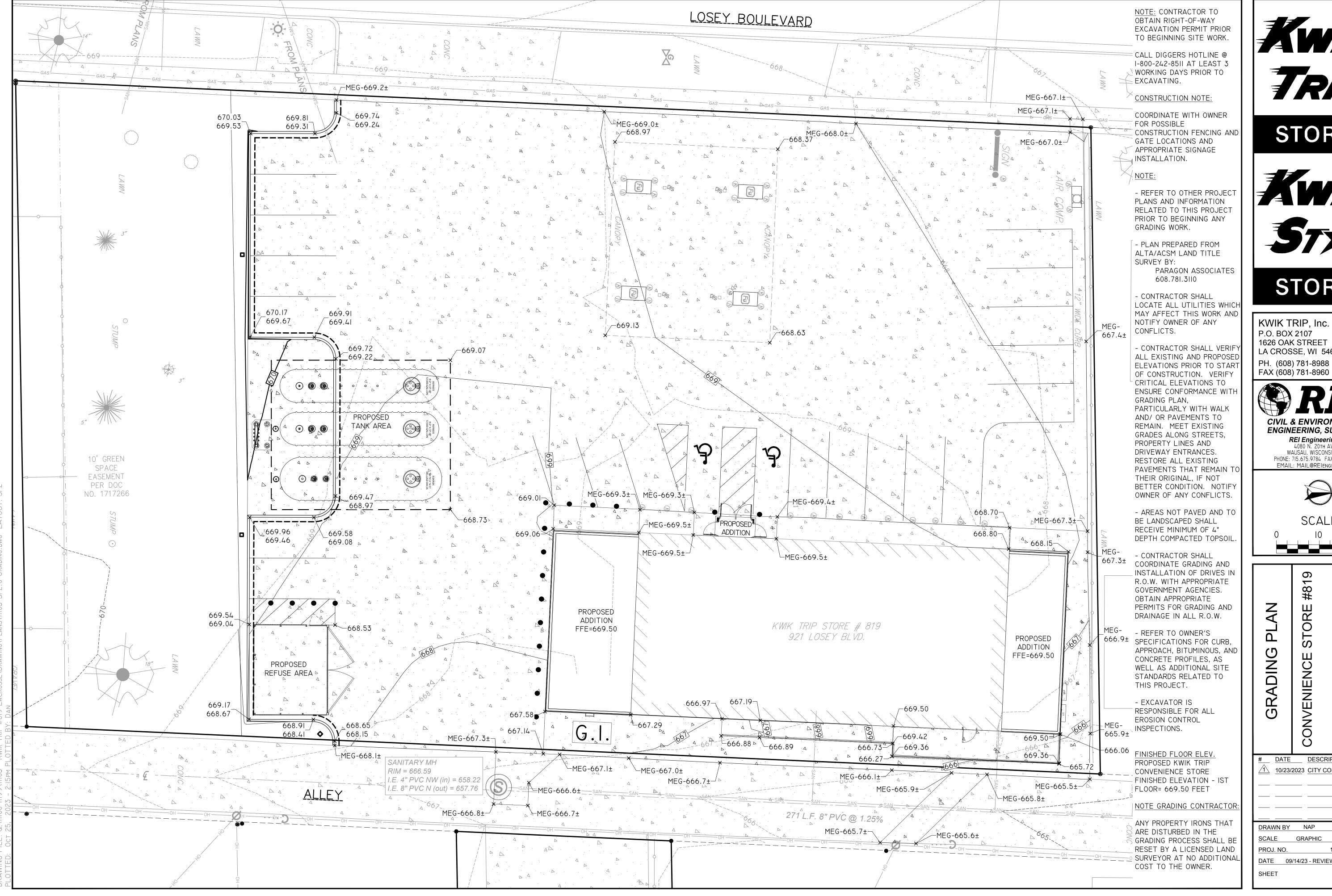
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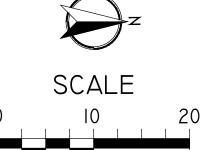
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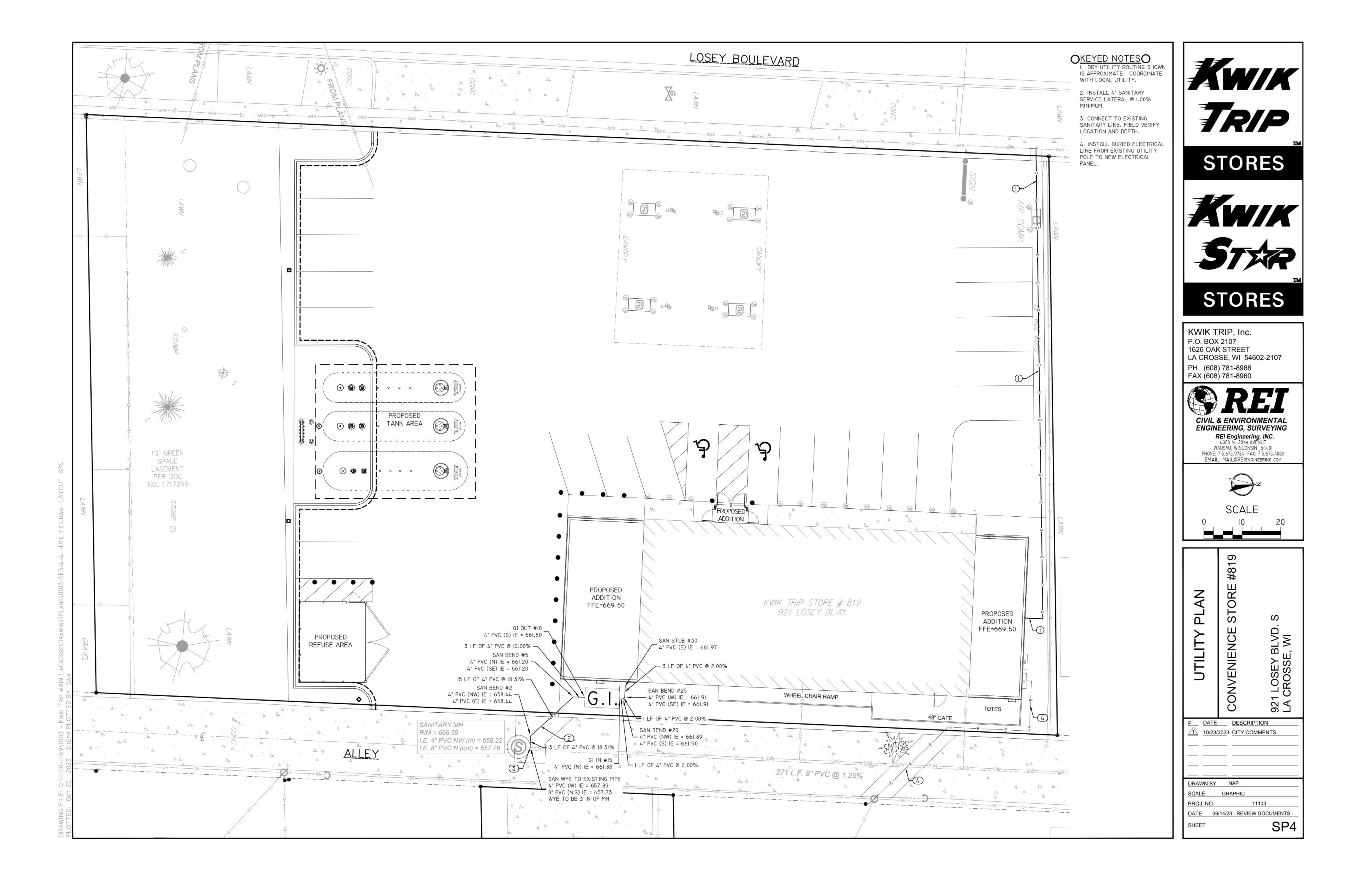
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- COMPLY WITH THE WORK SAFETY PRACTICES SPECIFIED BY THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA). COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY REGULATIONS. OSHA PROHIBITS ENTRY INTO "CONFINED SPACES," SUCH AS MANHOLES AND INLETS (SEE 29 CFR SECTION 1910.146), WITHOUT UNDERTAKING CERTAIN SPECIFIC PRACTICES AND PROCEDURES. CONSTRUCTION SAFETY IS SOLELY RESPONSIBLE FOR THE MEANS, METHODS, AND SEQUENCING OF THE CONSTRUCTION OPERATIONS.
- EXISTING BOUNDARY, LOCATION, TOPOGRAPHIC, AND UTILITY INFORMATION SHOWN ON THIS PLAN IS FROM A FIELD SURVEY BY PARAGON ASSOCIATES DATED JUNE 14, 2023.
- PERFORM ALL UTILITY WORK IN ACCORDANCE WITH STATE AND CITY REQUIREMENTS.
- CONNECT TO EXISTING SANITARY SEWER MH'S BY CORE DRILLING. CONNECT TO EXISTING STORM SEWER MH'S BY EITHER SAWCUTTING OR CORE DRILLING. USE SAWS OR DRILLS THAT PROVIDE WATER TO THE BLADE. MEET ALL CITY STANDARDS AND SPECIFICATIONS FOR THE THE CONNECTION. RECONSTRUCT INVERTS AFTER INSTALLATION. USE WATER STOP GASKETS IN ORDER TO PROVIDE WATERTIGHT SEALS WHEN PENETRATING A STRUCTURE WALL WITH A PIPE. TAKE MEASUREMENTS BEFORE BEGINNING CONSTRUCTION TO ENSURE THAT SERVICE CONNECTIONS DO NOT CUT INTO MAINTENANCE ACCESS STRUCTURE JOINTS OR PIPE BARREL JOINTS.
- PERFORM TRENCH EXCAVATIONS FOR ALL UTILITIES IN ACCORDANCE WITH THE REQUIREMENTS OF O.S.H.A. 29 CFR, PART 1926, SUBPART P, "EXCAVATIONS AND TRENCHES." (WWW.OSHA.GOV)
- COORDINATE BUILDING UTILITY CONNECTION LOCATIONS AT 5 FT. OUT FROM THE PROPOSED BUILDING WITH THE MECHANICAL ENGINEER PRIOR TO CONSTRUCTION.
- THE SUBSURFACE UTILITY INFORMATION SHOWN ON THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."
- THE LOCATIONS OF EXISTING UTILITIES SHOWN ON THIS PLAN ARE FROM RECORD INFORMATION. THE ENGINEER DOES NOT GUARANTEE THAT ALL EXISTING UTILITIES ARE SHOWN OR, IF SHOWN, EXIST IN THE LOCATIONS INDICATED ON THE PLAN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THE FINAL VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UTILITIES (INCLUDING WATER AND SEWER LINES AND APPURTENANCES). NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
- CONTACT UTILITY COMPANIES FOR LOCATIONS OF ALL PUBLIC AND PRIVATE UTILITIES WITHIN THE WORK AREA PRIOR TO BEGINNING CONSTRUCTION. CONTACT DIGGER'S HOTLINE 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.
- 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.
- 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.
- ARRANGE FOR AND SECURE SUITABLE DISPOSAL AREAS OFF-SITE. DISPOSE OF ALL EXCESS SOIL, WASTE MATERIAL, DEBRIS, AND ALL 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 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 THE OWNER.
- 13. STRAIGHT LINE SAW-CUT EXISTING BITUMINOUS OR CONCRETE SURFACING AT THE PERIMETER OF PAVEMENT REMOVAL AREAS. USE SAWS THAT PROVIDE WATER TO THE BLADE. TACK, AND MATCH ALL CONNECTIONS TO EXISTING BITUMINOUS PAVEMENT
- RELOCATE OVERHEAD POWER, TELEPHONE, AND CABLE LINES AS REQUIRED.
- 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.
- RESTORE THE PUBLIC RIGHT-OF-WAY. REPLACE ANY CONCRETE CURB AND GUTTER, BITUMINOUS PAVEMENT, SIDEWALK, OR VEGETATIVE COVER DAMAGED BY THE CONSTRUCTION ACTIVITY. RESTORE DAMAGED TURF WITH SOD WITHIN THE PUBLIC RIGHT-OF-WAY. THE WORK AREA SHOWN IS GENERAL AND MAY NEED TO BE ADJUSTED IN THE FIELD.
- WHEN SAWING OR DRILLING CONCRETE OR MASONRY, 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.
- 18. ADJUST ALL CURB STOPS, VALVE BOXES, MAINTENANCE HOLE CASTINGS, CATCH BASIN CASTINGS, CLEANOUT COVERS, AND SIMILAR ITEMS TO FINISHED GRADE.
- 19. INSTALL ALL PIPE WITH THE ASTM IDENTIFICATION NUMBERS ON THE TOP FOR INSPECTION. COMMENCE PIPE LAYING AT 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.
- 20. OBTAIN AND PAY FOR ALL PERMITS, TESTS, INSPECTIONS, ETC. REQUIRED BY AGENCIES THAT HAVE JURISDICTION OVER THE PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR ALL BONDS, LETTERS OF CREDIT, OR CASH SURETIES RELATED TO THE WORK. EXECUTE AND INSPECT WORK IN ACCORDANCE WITH ALL LOCAL AND STATE CODES, RULES, ORDINANCES, OR REGULATIONS PERTAINING TO THE PARTICULAR TYPE OF WORK INVOLVED.
- OBTAIN PERMITS FROM THE CITY FOR WORK IN THE PUBLIC RIGHT-OF-WAY.
- 22. CONSTRUCT SANITARY SEWER, WATERMAIN, AND STORM SEWER UTILITIES IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, SIXTH EDITION, OR THE LATEST REVISED EDITION.
- 23. TRACER WIRE: LOCATING REQUIREMENTS A MEANS TO LOCATE BURIED UNDERGROUND EXTERIOR NON METALLIC SEWERS/MAINS MUST BE PROVIDED WITH TRACER WIRE OR OTHER METHODS IN ORDER TO BE LOCATED IN ACCORD WITH THE PROVISIONS OF THESE CODE SECTIONS AS PER 182.0715(2R) OF THE STATUTES.
- 24. 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.

WATER DISTRIBUTION SYSTEM

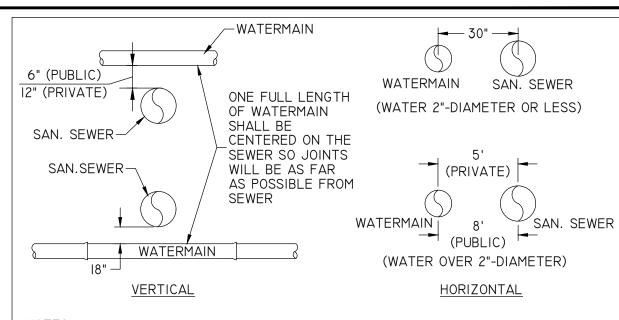
- BRING ALL SITE UTILITIES TO 5' OUTSIDE OF THE BUILDING LINE WITH THE EXCEPTION OF THE WATER SERVICE. EXTEND $^{-1}\cdot$ WATER SERVICE INTO THE BUILDING AND UP TO THE FLANGE FOR THE WATER METER.
- SEPARATION OF WATER AND SEWER: PROVIDE HORIZONTAL AND VERTICAL SEPARATIONS AS REQUIRED BY CODE. SEE DETAIL A/SP4.I.
- WATERMAIN DEPTH: MAINTAIN 7.5 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.
- 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. 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 HOUR 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.
- TESTING: PRESSURE TEST AND PERFORM BACTERIOLOGICAL TESTS ON ALL WATER LINES UNDER THE SUPERVISION OF THE CITY PUBLIC WORKS DEPARTMENT. NOTIFY THE CITY AT LEAST 24 WORKING HOURS PRIOR TO ANY TESTING. PRESSURIZE A PUMP CONNECTED TO THE PIPE IN A SATISFACTORY MANNER. MAINTAIN THE TEST PRESSURE FOR A MINIMUM OF 2 HOURS. DO NOT ADD WATER TO THE WATERMAIN IN ORDER TO MAINTAIN THE REQUIRED PRESSURE DURING THE WATER MAIN PRESSURE TESTING. THE TEST SECTION OF PIPE IS ACCEPTABLE WITH A PRESSURE DROP OF 14 KPA (2 PSI) OR LESS.
- USE MUELLER H 10300 OR FORD EM 2 7057, OR APPROVED EQUAL, AT ALL CURB STOP LOCATIONS. STATIONARY ROD IS REQUIRED ON ALL CURB STOPS.
- BUILDING WATER SERVICES: WATER SERVICE PIPE SHALL MEET THE FOLLOWING SPECIFICATIONS AND BE APPROVED BY THE LOCAL GOVERNING AGENCY. 2.5 INCH OR LESS: HDPE PER ASTM D2737 SDR 9 OR TYPE K COPPER PER ASTM B - 88. 4 INCH OR GREATER: DIP PER AWWA CI5I OR PVC PER AWWA C-900.
- TRACER WIRE: LOCATING REQUIREMENTS A MEANS TO LOCATE BURIED UNDERGROUND EXTERIOR NON METALLIC SEWERS/MAINS MUST BE PROVIDED WITH TRACER WIRE OR OTHER METHODS IN ORDER TO BE LOCATED IN ACCORD WITH 12. INSTALL STORM SEWER IN ACCORDANCE WITH SECTION 608 OF THE WISDOT STANDARD SPECIFICATIONS. THE PROVISIONS OF THE WISCONSIN STATUTES 182.0175(2R) AND THE WISCONSIN DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICES SPS 382.30(II)(H)

STORM DRAINAGE:

UNLESS OTHERWISE INDICATED, USE REINFORCED, PRECAST, CONCRETE MAINTENANCE HOLES AND CATCH BASINS CONFORMING TO ASTM C478, FURNISHED WITH WATER STOP RUBBER GASKETS AND PRECAST BASES. JOINTS FOR ALL PRECAST MAINTENANCE HOLE SECTIONS SHALL HAVE CONFINED, RUBBER "O"-RING GASKETS IN ACCORDANCE WITH ASTM C923. THE INSIDE BARREL DIAMETER SHALL NOT BE LESS THAN 48 INCHES.

- 2. ALL JOINTS AND CONNECTIONS TO CATCH BASINS OR MANHOLES SHALL BE WATERTIGHT OR APPROVED CONNECTION. USE RESILIENT RUBBER SEALS, WATERSTOP GASKETS, OR APPROVED EQUAL. CEMENT MORTAR JOINTS ARE NOT ALLOWED UNLESS OTHERWISE PERMITTED BY LOCAL MUNICIPALITY
- 3. INSTALL CATCH BASIN CASTINGS WITH SPECIFIED TOP ELEVATION AT THE FLOWLINE OF RIM.
- 4. PVC PIPE: USE SOLID-CORE, SDR-35, ASTM D3034 POLYVINYL CHLORIDE (PVC) PIPE FOR DESIGNATED PVC STORM SEWER SERVICES 4 TO 15-INCHES IN DIAMETER. USE SOLID-CORE, SDR-35, ASTM F679 POLYVINYL CHLORIDE (PVC) PIPE FOR DESIGNATED PVC STORM SEWER SERVICES I8 TO 27-INCHES IN DIAMETER. JOINTS FOR ALL STORM SEWER SHALL HAVE PUSH-ON JOINTS WITH ELASTOMERIC GASKETS. USE OF SOLVENT CEMENT JOINTS IS ALLOWED FOR BUILDING SERVICES. SOLVENT CEMENT JOINTS IN PVC PIPE MUST INCLUDE USE OF A PRIMER WHICH IS OF CONTRASTING COLOR TO THE PIPE AND CEMENT. PIPE WITH SOLVENT CEMENT JOINTS SHALL BE JOINED WITH PVC CEMENT CONFORMING TO ASTM D2564. LAY ALL PVC PIPE ON A CONTINUOUS GRANULAR BED. INSTALLATION MUST COMPLY WITH ASTM D2321.
- 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 I. INSTALL DUAL-WALL, SMOOTH INTERIOR, CORRUGATED HIGH-DENSITY THROUGH SOIL OR WATER IDENTIFIED AS BEING CONTAMINATED. 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.
- 6. USE NEENAH R-1550A FRAME WITH 2050D GRATE ON ALL PROPOSED CATCH BASINS.
- 7. INSTALL DETECTABLE UNDERGROUND MARKING TAPE DIRECTLY ABOVE ALL PVC, POLYETHYLENE, AND OTHER NONCONDUCTIVE UNDERGROUND UTILITIES AT A DEPTH OF 457 MM (18 INCHES) BELOW FINISHED GRADE, UNLESS OTHERWISE INDICATED. BRING THE TAPE TO THE SURFACE AT VARIOUS LOCATIONS IN ORDER TO PROVIDE CONNECTION POINTS FOR LOCATING UNDERGROUND UTILITIES. INSTALL BLUE RHINO TRIVIEW FLEX TEST STATIONS, OR APPROVED EQUAL, WITH BLACK CAPS AT EACH SURFACE LOCATION.
- THE WATERLINE TO 1034-KPA (150-PSI) GAUGE PRESSURE (MEASURED AT THE POINT OF LOWEST ELEVATION) BY MEANS TO LOCATE BURIED UNDERGROUND EXTERIOR NON METALLIC SEWERS/MAINS MUST BE PROVIDED WITH TRACER WIRE OR OTHER METHODS IN ORDER TO BE LOCATED IN ACCORD WITH THE PROVISIONS OF THESE CODE SECTIONS AS PER 182.0715(2R) OF THE STATUTES.
 - 9. THE MINIMUM DEPTH OF COVER FOR BUILDING AND CANOPY ROOF DRAIN LEADERS WITHOUT INSULATION IS 5 FEET. INSULATE ROOF DRAIN LEADERS AT LOCATIONS WHERE THE DEPTH 5. WATER-TIGHT JOINTS MUST BE USED AT ALL CONNECTIONS INCLUDING OF COVER IS LESS THAN 5 FEET. PROVIDE A MINIMUM INSULATION THICKNESS OF 2 INCHES. THE INSULATION MUST BE AT LEAST 4 FEET WIDE AND CENTERED ON THE PIPE. INSTALL THE INSULATION BOARDS 6 INCHES ABOVE THE TOPS OF THE PIPES ON MECHANICALLY COMPACTED AND LEVELED PIPE BEDDING MATERIAL. USE HIGH DENSITY, CLOSED CELL, RIGID BOARD MATERIAL EQUIVALENT TO DOW STYROFOAM HI-40 PLASTIC FOAM INSULATION.
 - 10. CLEANOUTS: INSTALL CLEANOUTS ON ALL ROOF DRAINS IN ACCORDANCE WITH S.P.S 382.35 (3)(C)(I.). THE DISTANCE BETWEEN CLEANOUTS IN HORIZONTAL PIPING SHALL NOT EXCEED 100 FEET FOR PIPES 10-INCHES AND UNDER IN SIZE. CLEANOUTS SHALL BE OF THE SAME NOMINAL SIZE AS THE PIPES THEY SERVE OR 6-INCH DIAMETER MINIMUM FOR PIPES 6 INCHES IN DIAMETER OR GREATER. INSTALL A METER BOX FRAME AND SOLID LID (NEENAH R-1914-A, OR APPROVED EQUAL) OVER ALL CLEANOUTS.
 - 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.

 - 13. INSTALL CATCH BASINS, MANHOLES, AND INLETS IN ACCORDANCE WITH SECTION 611 OF THE WISDOT STANDARD SPECIFICATIONS.



I. WHEN THE ABOVE SEPARATIONS CANNOT BE MAINTAINED, THE ENGINEER MAY REQUIRE THE CONTRACTOR TO ENCASE THE SEWER IN CONCRETE.

2. NO PRIVATE WATER MAIN OR WATER SERVICE SHALL BE INSTALLED WITHIN 6" OF A STORM SEWER. PUBLIC WATER MAIN MUST MEET THE SAME HORIZONTAL AND VERTICAL SEPARATION DISTANCES AS REQUIRED FOR SANITARY SEWER.

SEWER / WATERMAIN SEPARATION DISTANCE SP4.I) NTS

SANITARY SEWER

- I. PIPE: USE SOLID-CORE, SDR-35, ASTM D3034 (OR APPROVED EQUAL) POLYVINYI CHLORIDE (PVC) PLASTIC PIPE FOR ALL DESIGNATED PVC SANITARY SEWER SERVICES. JOINTS FOR ALL SANITARY SEWER SHALL HAVE PUSH-ON JOINTS WITH ELASTOMERIC GASKETS. USE OF SOLVENT CEMENT JOINTS IS ALLOWED FOR BUILDING SERVICES. SOLVENT CEMENT JOINTS IN PVC PIPE MUST INCLUDE USE OF A PRIMER WHICH IS OF CONTRASTING COLOR TO THE PIPE AND CEMENT. PIPE WITH SOLVENT CEMENT JOINTS SHALL BE JOINED WITH PVC CEMENT CONFORMING TO ASTM D2564. LAY ALL PVC PIPE ON A CONTINUOUS GRANULAR BED. INSTALLATION MUST COMPLY WITH ASTM D2321.
- 2. CLEANOUTS: INSTALL CLEANOUTS ON ALL SANITARY SEWER SERVICES. THE DISTANCE BETWEEN CLEANOUTS IN HORIZONTAL PIPING SHALL NOT EXCEED 100 FEET FOR PIPES 4-INCH AND OVER IN SIZE. CLEANOUTS SHALL BE OF THE SAME NOMINAL SIZE AS THE PIPES THEY SERVE OR 6-INCH DIAMETER MINIMUM FOR PIPES 6 INCHES IN DIAMETER OR GREATER. INCLUDE FROST SLEEVES AND CONCRETE FRAME AND PIPE SUPPORT. INSTALL A METER BOX FRAME AND SOLID LID (NEENAH R-1914-A, OR APPROVED EQUAL) OVER ALL CLEANOUTS.
- TESTING: PRESSURE TEST ALL SANITARY SEWER LINES. TEST ALL FLEXIBLE SANITARY 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. UNLESS OTHERWISE INDICATED, USE REINFORCED, PRECAST, CONCRETE MAINTENANCE HOLES CONFORMING TO ASTM C478, FURNISHED WITH PRECAST BASES. SANITARY SEWER MAINTENANCE HOLES SHALL BE SUPPLIED WITH PRE-FORMED INVERTS AND FLEXIBLE NEOPRENE SLEEVE CONNECTIONS FOR ALL LATERAL LINES 375 MM (I5 INCHES) IN DIAMETER OR LESS, UNLESS OTHERWISE INDICATED. JOINTS FOR ALL PRECAST MAINTENANCE HOLE SECTIONS SHALL HAVE CONFINED, RUBBER "O"-RING GASKETS IN ACCORDANCE WITH ASTM C923. THE INSIDE BARREL DIAMETER SHALL NOT BE LESS THAN 48 INCHES.
- 5. INSTALL FLEXIBLE WATERTIGHT OR APPROVED CONNECTION FRAME/CHIMNEY SEALS ON ALL SANITARY SEWER MAINTENANCE HOLES. USE EITHER MANUFACTURED MAINTENANCE HOLE FRAME/CHIMNEY SEALS OR ELASTOMERIC WATERPROOFING FRAME/CHIMNEY SEALS.
- 6. USE NEENAH FOUNDRY CO. R-1642 CASTING WITH SELF-SEALING, SOLID, TYPE B LID, OR APPROVED EQUAL, ON ALL SANITARY SEWER MAINTENANCE HOLES. COVERS SHALL BEAR THE "SANITARY SEWER" LABEL.
- 7. THE MINIMUM DEPTH OF COVER FOR SANITARY SEWER WITHOUT INSULATION IS 5 FEET. INSULATE SANITARY SEWER SERVICES AT LOCATIONS WHERE THE DEPTH OF COVER IS LESS THAN 5 FEET. PROVIDE A MINIMUM INSULATION THICKNESS OF 2 INCHES. THE INSULATION MUST BE AT LEAST 4 FEET WIDE AND CENTERED ON THE PIPE. INSTALL THE INSULATION BOARDS 6 INCHES ABOVE THE TOPS OF THE PIPES ON MECHANICALLY COMPACTED AND LEVELED PIPE BEDDING MATERIAL. USE HIGH DENSITY, CLOSED CELL, RIGID BOARD MATERIAL EQUIVALENT TO DOW STYROFOAM HI-40 PLASTIC FOAM INSULATION.
- 8. TRACER WIRE: LOCATING REQUIREMENTS A MEANS TO LOCATE BURIED UNDERGROUND EXTERIOR NON METALLIC SEWERS/MAINS MUST BE PROVIDED WITH TRACER WIRE OR OTHER METHODS IN ORDER TO BE LOCATED IN ACCORD WITH THE PROVISIONS OF THE WISCONSIN STATUTES 182.0175(2R) AND THE WISCONSIN DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICES SPS 82.30(II)(H).

HDPE REQUIREMENTS:

- POLYETHYLENE (HDPE) PIPE AT LOCATIONS INDICATED ON THE PLAN.
- 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.
- 3. 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.
- 4. ALL FITTINGS MUST COMPLY WITH ASTM STANDARD D3212.
- STRUCTURES.
- 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.



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KWIK TRIP. Inc. P.O. BOX 2107 1626 OAK STREET LA CROSSE, WI 54602-2107 PH. (608) 781-8988 FAX (608) 781-8960

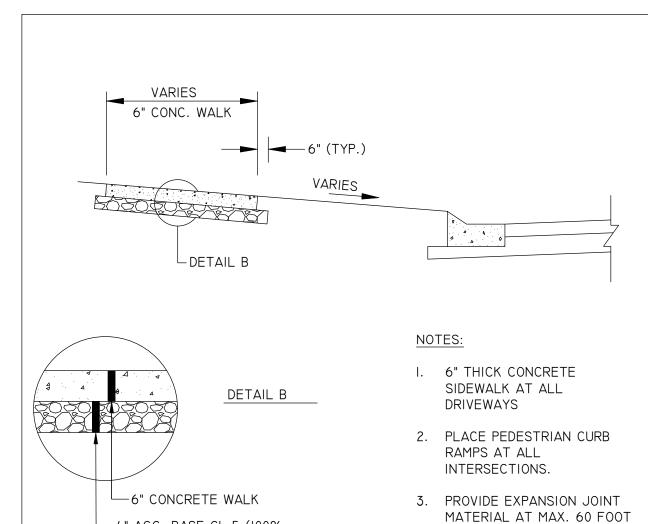


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UTILITY SPECS	CONVENIENCE STORE #819	921 LOSEY BLVD. S LA CROSSE, WI
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3/4"/FT //_3/4"/FT

SP5 / NOT TO SCALE

* TRANSITION LENGTH SHALL BE 12 LF ON TANGENTS GREATER THAN 18 LF, OR BETWEEN RADIUS POINTS ON TANGENTS LESS THAN 18 LF, OR BETWEEN RADIUS MID POINTS WHERE TANGENTS ARE LESS THAN 12 LF, OR ACROSS THE RADIUS/RADII WHERE TANGENTS ARE LESS THAN 2 LF.

4 \TRANSITION CURB & GUTTER DETAIL

DIAMETER

___3/4"R

5 STD CURB & GUTTER TERMINI DETAIL SP5 / NOT TO SCALE

-CONSTRUCTION JOINT

TAPER CURB-

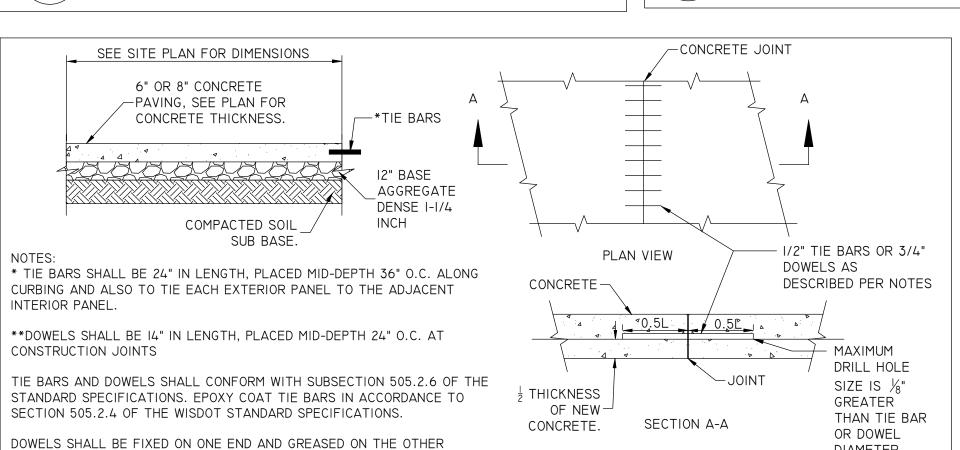
THE CURB HEIGHT SHALL

HEIGHT AT (A)

TRANSITION FROM FULL CURB HEIGHT AT®TO ZERO CURB

4. PROVIDE EXPANSION JOINT MATERIAL ALONG BOTH EDGES OF WALK, WHERE WALK IS CONTAINED CONCRETE WALK/ PAD DETAIL BETWEEN FIXED OBJECTS.

SPACING.



BASE AGGREGATE TO EXTEND 12" BEYOND BACK OF CURB OR EDGE OF PAVEMENT.

CONCRETE PAVEMENT SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI AND AN AIR CONTENT OF 6% +/- 1.5%

SP5 / NOT TO SCALE

6 CONCRETE PAVEMENT DETAIL SP5 / NOT TO SCALE

BOTH DIRECTIONS, CONCRETE SEALER: TK-26UV

BOTH DIRECTIONS, CONCRETE SEALER: TK-26UV

THE CONCRETE DEPTH

CONCRETE PANELS SHALL NOT BE GREATER THAN 15' IN LENGTH IN ANY DIRECTION AND CONTRACTION JOINTS SHALL BE TO A MINIMUM DEPTH OF $\frac{1}{L}$

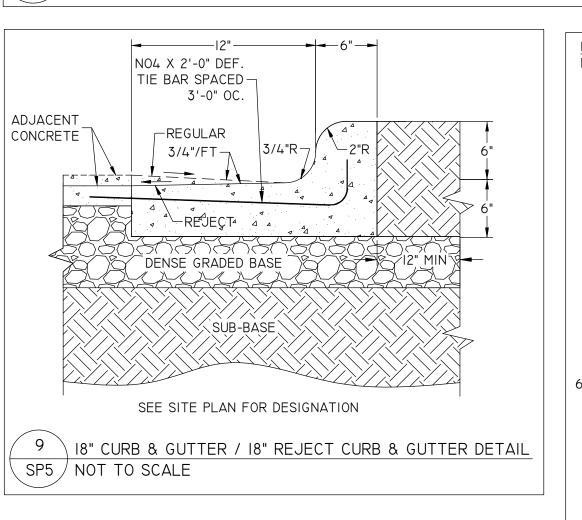
6" DEPTH (MIN.) CONCRETE SLAB-ON-GRADE WITH #3 REBAR, 3' O.C. IN

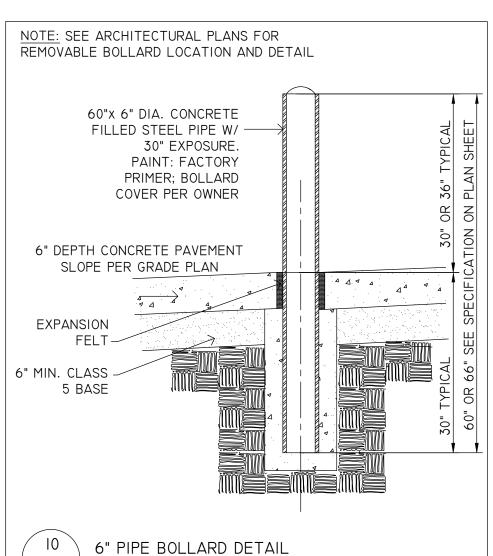
8" DEPTH (MIN.) CONCRETE SLAB-ON-GRADE WITH #4 REBAR, 4' O.C. IN

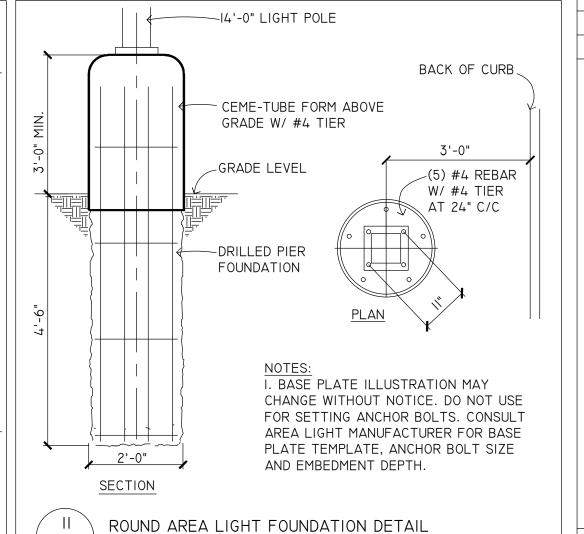
4" AGG. BASE CL 5 (100%

CRUSHED)

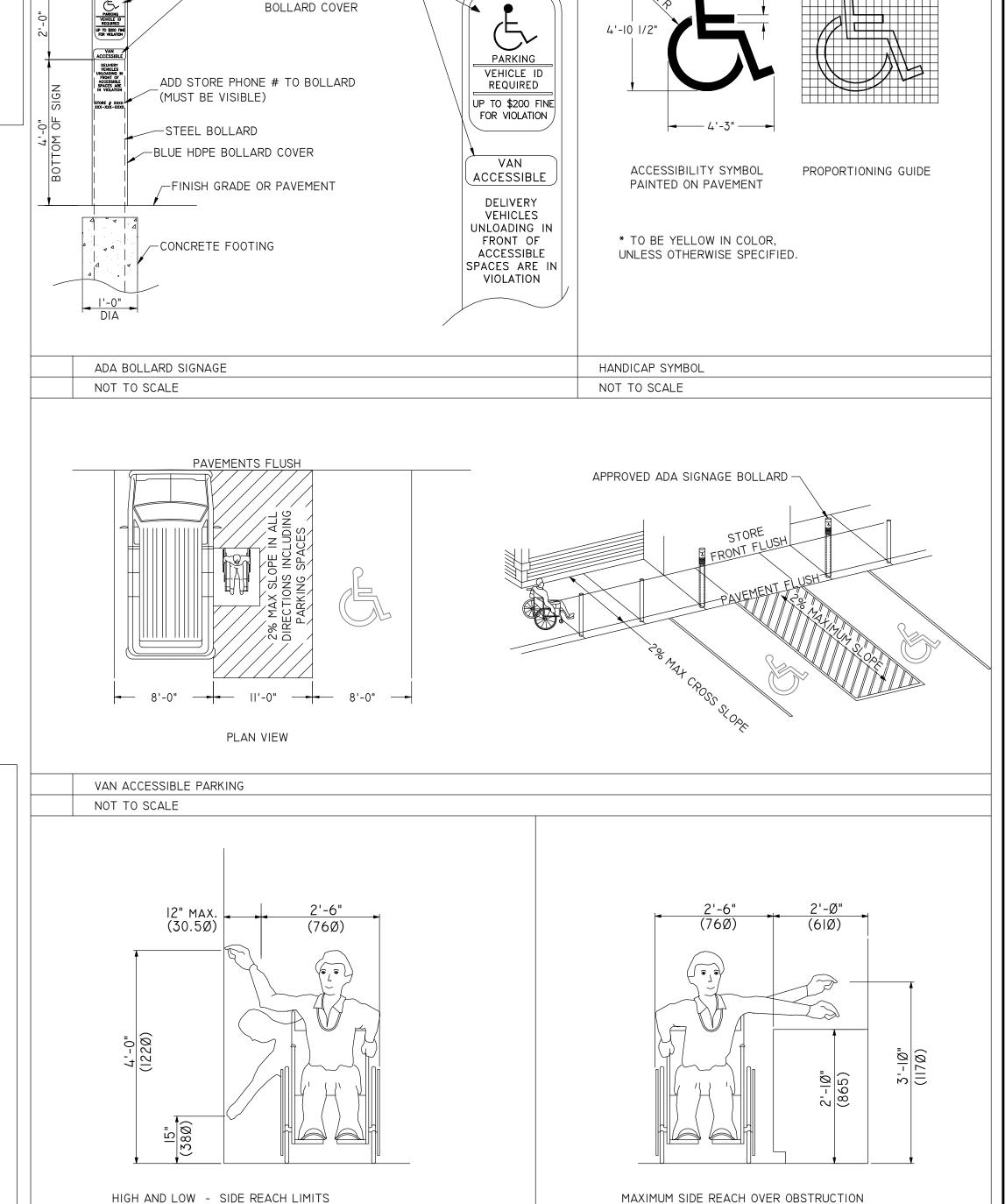
SP5 / NOT TO SCALE







SP5 / NOT TO SCALE



ADA ACCESSIBLE SIGNAGE-

ADHESIVE STICKER, WHITE LETTERS WITH BLUE REFLECTIVE -

BACKGROUND, ADHERE TO HDPE

ACCESSIBLE REACH DIMENSIONS

NOT TO SCALE



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FAX (608) 781-8960



REI Engineering, INC. 4080 N. 20TH AVENUE WAUSAU, WISCONSIN 54401 PHONE: 7I5.675.9784 FAX: 7I5.675.4060 EMAIL: MAIL@REIENGINEERING.COM

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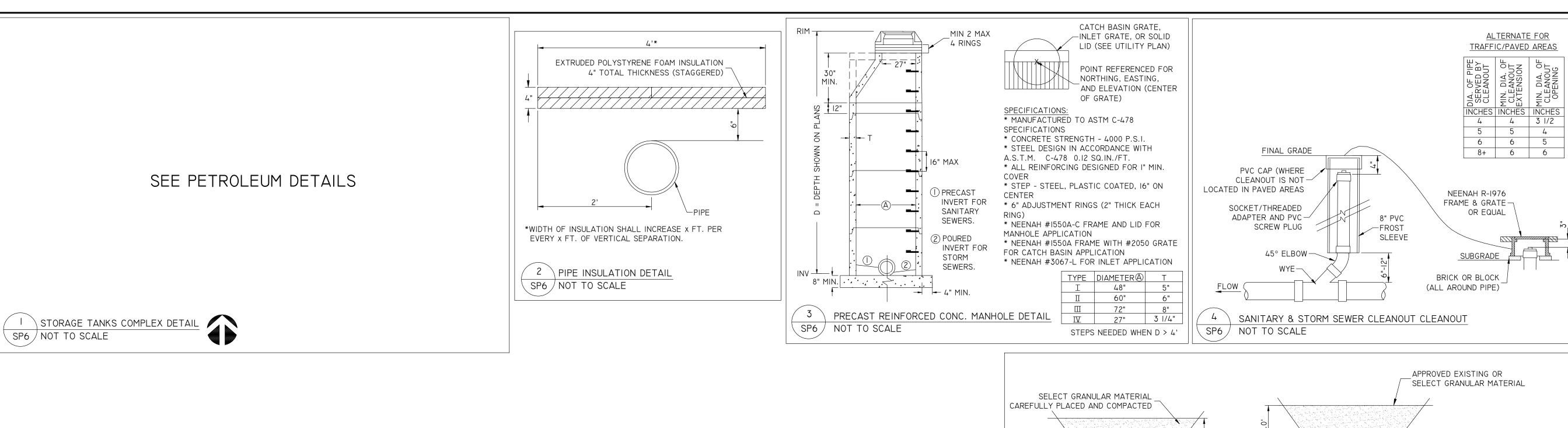
ORE S 921 LOSEY BLVD. LA CROSSE, WI CONVENIENC

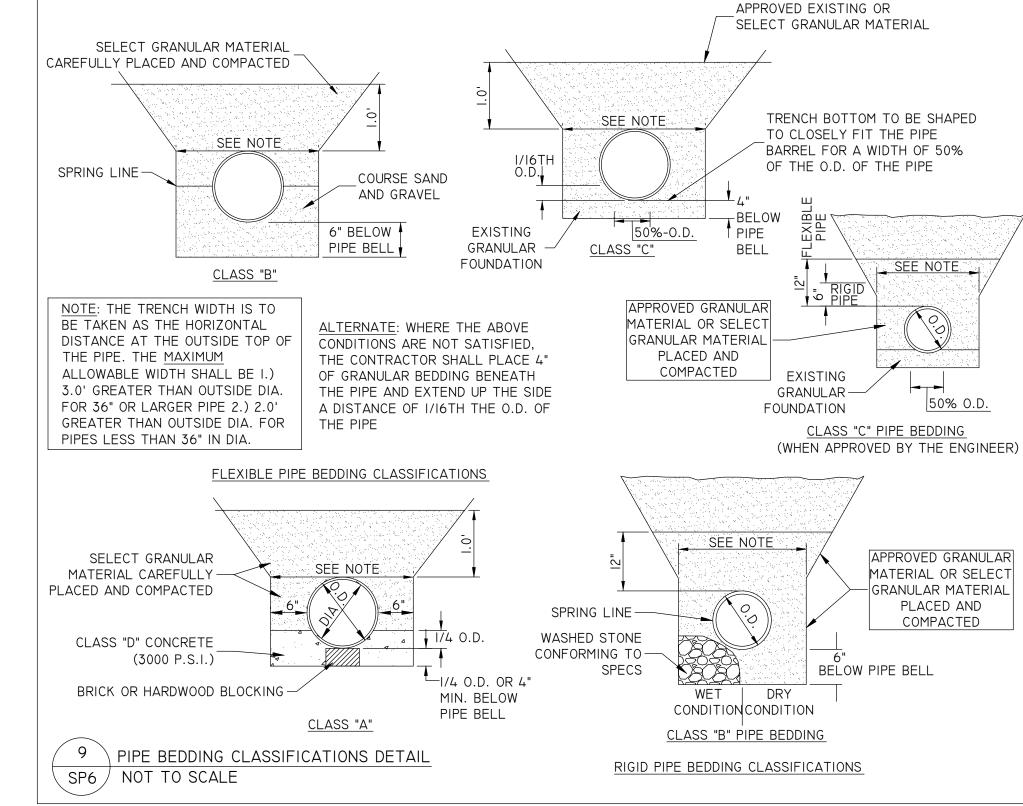
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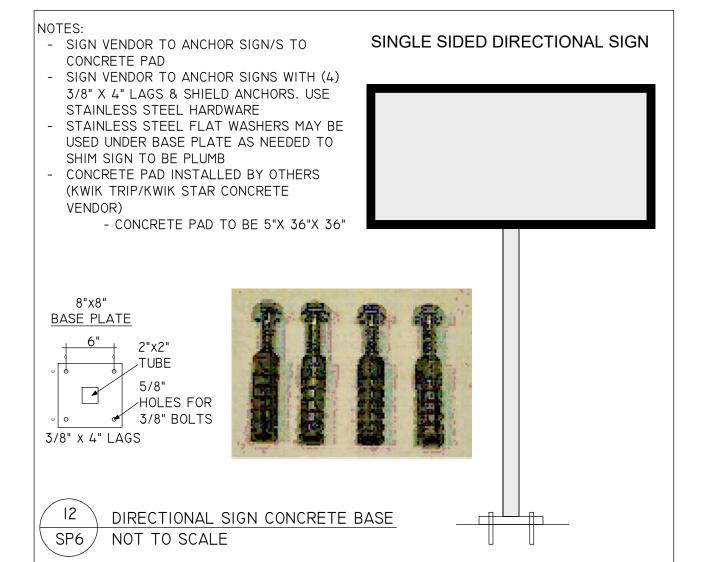
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SHEET

SP5









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WAUSAU, WISCONSIN 54401 PHONE: 7I5.675.9784 FAX: 7I5.675.4060 EMAIL: MAIL@REIENGINEERING.COM

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19 8# TORE S S 921 LOSEY BLVD. LA CROSSE, WI CONVENIENCE SITE

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SHEET

SP6