LEGEND (PROPOSED FEATURES) TREE REMOVAL EXISTING CONCRETE PAVEMENT TO BE REMOVED EXISTING ASPHALT PAVEMENT TO BE + + + + EXISTING GRAVEL TO BE REMOVED EXISTING BUILDING/STRUCTURE TO BE REMOVED -XXXXXXXXXXX SAWCUT LINE PROPOSED PROPERTY LINE PROPOSED SITE LIGHTING (DESIGNED BY OTHERS, FOR REFERENCE ONLY) (CONSTRUCTION DETAILS BY OTHERS) HEAVY-DUTY CONCRETE PAVEMENT CONCRETE SIDEWALK HEAVY-DUTY ASPHALT PAVEMENT STANDARD-DUTY ASPHALT PAVEMENT COLORED AND STAMPED CONCRETE PROPOSED 18" REJECT CURB & GUTTER (AS SHOWN ON SITE PLAN) PROPOSED 18" STANDARD CURB & GUTTER (AS SHOWN ON SITE PLAN) PROPOSED ACCESSIBLE PAVEMENT MARKING VAN ACCSSSIBLE STALL PROPOSED TYPE 3 CURB RAMP (SEE DETAIL SHEET. NOTE LINEWORK ON PLAN IS PROPOSED TYPE 3A CURB RAMP (SEE DETAIL SHEET. NOTE LINEWORK ON PLAN IS PROPOSED TYPE 4 CURB RAMP (SEE DETAIL SHEET. NOTE LINEWORK ON PLAN IS SYMBOLIC ONLY.) PROPOSED TYPE 4A CURB RAMP (SEE DETAIL SHEET. NOTE LINEWORK ON PLAN IS PROPOSED TYPE 7 CURB RAMP (SEE DETAIL

SHEET. NOTE LINEWORK ON PLAN IS

STRUCTURAL RETAINING WALL - (DESIGNED BY

SYMBOLIC ONLY.)

— — 869.5 — PROPOSED 0.5—FOOT GRADE CONTOUR

PROPOSED SPOT GRADE

PROPOSED TOP OF CURB

ADJACENT TO TOP OF WALL

ADJACENT TO BASE OF WALL

PROPOSED INLET PROTECTION

PROPOSED SILT FENCE

- < - - PROPOSED TEMPORARY DIVERSION

SWALE & BERM

▽ ▽ ▽ ▽ ▼ PROPOSED LEVEL SPREADER

PROPOSED FINISHED SURFACE GRADE

PROPOSED FINISHED SURFACE GRADE

PROPOSED EROSION CONTROL BALE

PROPOSED STONE TRACKING MAT

PROPOSED FIRE DEPARTMENT CONNECTION

PROPOSED PERMANENT TURF

EROSION CONTROL BLANKET

REINFORCEMENT MAT

PROPOSED RIPRAP

PROPOSED WATER VALVE

PROPOSED FIRE HYDRANT

PROPOSED STORM MANHOLE

PROPOSED SANITARY MANHOLE

PROPOSED INLET/ CB

PROPOSED AREA DRAIN

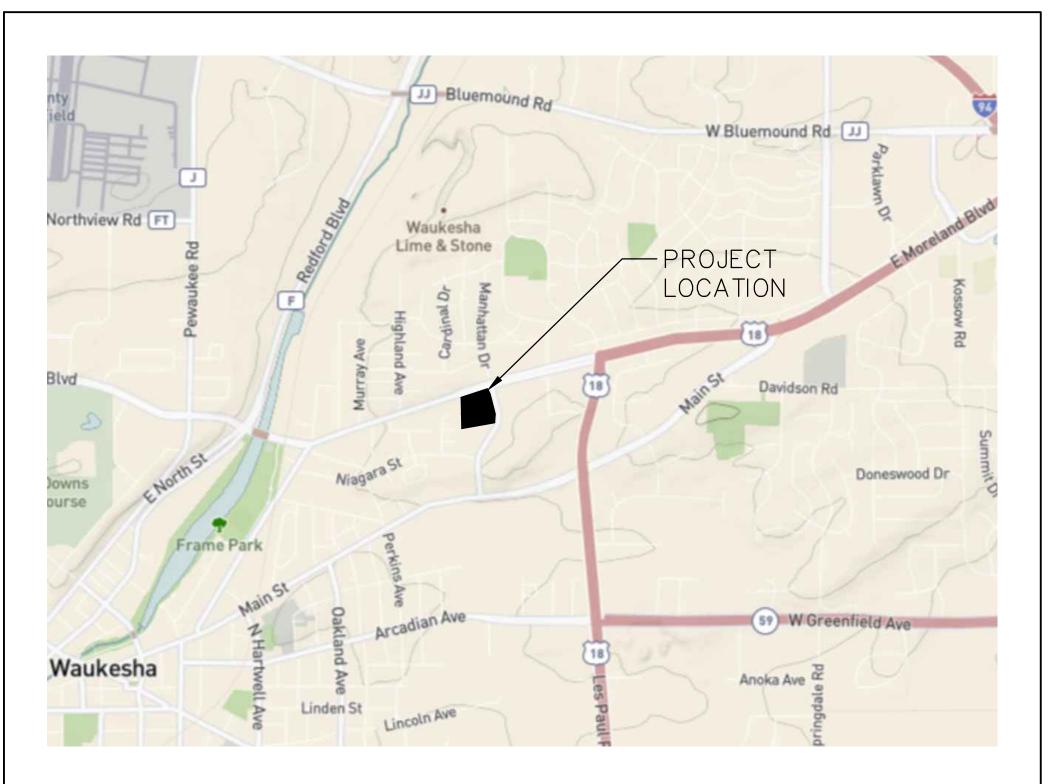
— — G— PROPOSED GAS LINE

--- PROPOSED WATER MAIN

(ONLY USED WHEN CRITICAL)

CONSTRUCTION PLANS FOR NISSAN WAUKESHA CITY OF WAUKESHA, WISCONSIN

 $C \mid N \mid T \mid Y$



ENGINEER AND LANDSCAPE ARCHITECT:

LEGEND

INDICATES RECORDED DIMENSION WHERE DIFFERENT FROM ACTUAL

🕽 or 🖫 Section or 1/4 Section CORNER AS DÉSCRIBED

1" DIA. IRON PIPE, 18" LONG-SET

1" DIA. IRON PIPE FOUND (UNLESS OTHERWISE NOTED)

FLAGPOLE

BILLBOARD AIR CONDITIONER

B CONTROL BOX

TRAFFIC SIGNAL

CABLE PEDESTAL

POWER POLE GUY POLE

GUY WIRE

LIGHT POLE

GAS METER GAS WARNING SIGN

ROUND INLET

SQUARE INLET

WATER VALVE

WATER MANHOLE

WATER SURFACE WETLANDS FLAG

CONIFEROUS TREE

DECIDUOUS TREE

SANITARY MANHOLE

MAILBOX SIGN

(UNLESS OTHERWISE NOTED)

RAILROAD CROSSING SIGNAL

SPOT/YARD/PEDESTAL LIGHT

STORM SEWER END SECTION

SANITARY CLEANOUT OR SEPTIC VENT SANITARY INTERCEPTOR MANHOLE MISCELLANEOUS MANHOLE

-EDGE OF TREES

-SANITARY SEWER

-MARKED GAS MAIN

-MARKED ELECTRIC

-OVERHEAD WIRES

-BUREAU ELEC. SERV -MARKED TELEPHONE

-MARKED CABLE TV LINE

-MARKED FIBER OPTIC INDICATES EXISTING CONTOUR ELEVATION

INDICATES EXISTING SPOT ELEVATION

-EXISTING PROPERTY LINE

-EXISTING EASEMENT LINE

-STORM SEWER

-WATERMAIN

HANDICAPPED PARKING

ELECTRIC TRANSFORMER TELEPHONE MANHOLE

TELEPHONE PEDESTAL

MARKED FIBER OPTIC

ELECTRIC MANHOLE ELECTRIC PEDESTAL

ELECTRIC METER

SOIL BORING/MONITORING WELL

(262) 781-1000 rasmith.com

16745 W. Bluemound Road

Brookfield, WI 53005-5938

CREATIVITY BEYOND ENGINEERING

RYAN J. LANCOUR, P.E. PROJECT MANAGER PH: (262) 317-3259

PROPERTY OWNER:

BOUCHER HOLDINGS LLC 4141 S. 108TH STREET GREENFIELD, WI 53228 PH: (414) 427-4141

DEVELOPER:

CHAD KEMNITZ, PRESIDENT PROFESSIONAL CONSULTANTS, INC. 133 HILL ST. HARTLAND, WI 53029 PH: (262) 367-6080

BENCHMARK 1:

CHISELED BOX ON LAMP POST BASE. SE OF SITE ELEVATION = 883.70'VERTICAL DATUM: NAVD 88

BENCHMARK 2:

"X" NW FLANGE BOLT ON HYDRANT ON NORTHERNLY ROW OF E MORELAND BLVD ELEVATION = 880.99VERTICAL DATUM: NAVD 88

SEWRPC BENCHMARK 1:

CONC MON W/ BRASS CAP IN

EAST BOUND LANE OF USH 18

NW CORNER SW 1 OF SEC 36

SEWRPC BENCHMARK 2:

CONC MON W/ BRASS CAP

SW CORNER SW 1 OF SEC 36

ELEVATION = 876.98'

N: 378,689.51 USFT

E: 2,448,163.35 USFT

ELEVATION = 841.03'

N: 376,029.00 USFT

E: 2,448,203.06 USFT

CONC CURB ON NORTH SIDE

Know what's below. Call before you dig.

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PLAN INDEX

SHEET NO.	DESCRIPTION					
C000	COVER SHEET					
C001	PLAT OF SURVEY					
C100	EXISTING CONDITIONS & EROSION CONTROL PLAN					
C101	DEMOLITION PLAN					
C200	OVERALL SITE PLAN					
C201	DETAILED SITE PLAN - NORTH					
C202	DETAILED SITE PLAN - SOUTH					
C203	FIRE TRUCK TEMPLATE PLAN					
C204	WB-65 TRUCK TEMPLATE PLAN					
C300	OVERALL GRADING PLAN					
C301	DETAILED GRADING PLAN - NORTH					
C302	DETAILED GRADING PLAN — SOUTH					
C400	OVERALL UTILITY PLAN					
C401	UTILITY PLAN — NORTH					
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C500	EROSION CONTROL DETAILS					
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C504	UNDERGROUND STORAGE DETAILS					
C505	UNDERGROUND STORAGE DETAILS					
C600	SPECIFICATIONS					
L100	LANDSCAPE PLAN - NORTH					
L101	LANDSCAPE PLAN - SOUTH					

ADDRESS:

1610 MANHATTAN DR. WAUKESHA, WI 53186

<u>CITY OF WAUKESHA NOTE</u>

ALL SITE IMPROVEMENTS AND CONSTRUCTION SHOWN ON PLANS SHALL CONFORM TO THE CITY OF WAUKESHA DEVELOPMENT HANDBOOK & INFRASTRUCTURE SPECIFICATIONS. WHERE THE PLANS DO NOT COMPLY, IT SHALL BE THE SOLE RESPONSIBILITY AND EXPENSE OF THE DEVELOPER TO MAKE REVISIONS TO THE PLANS AND/OR CONSTRUCTED INFRASTRUCTURE TO COMPLY.

07/25/2024 PLAN DATE: REVISIONS | ISSUE DATE | SHEET NO.'S ISSUED FOR:

SHA NISSAN

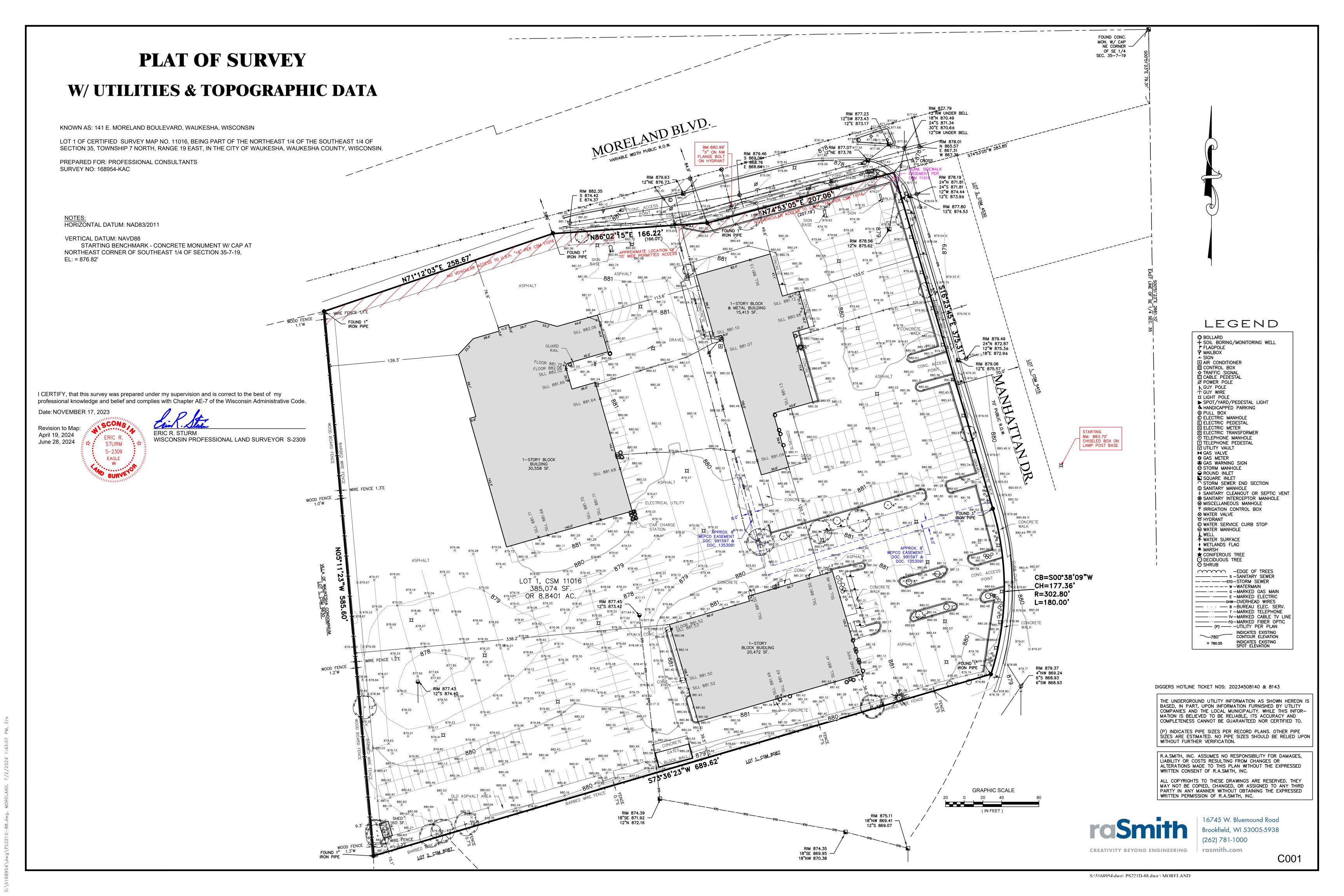
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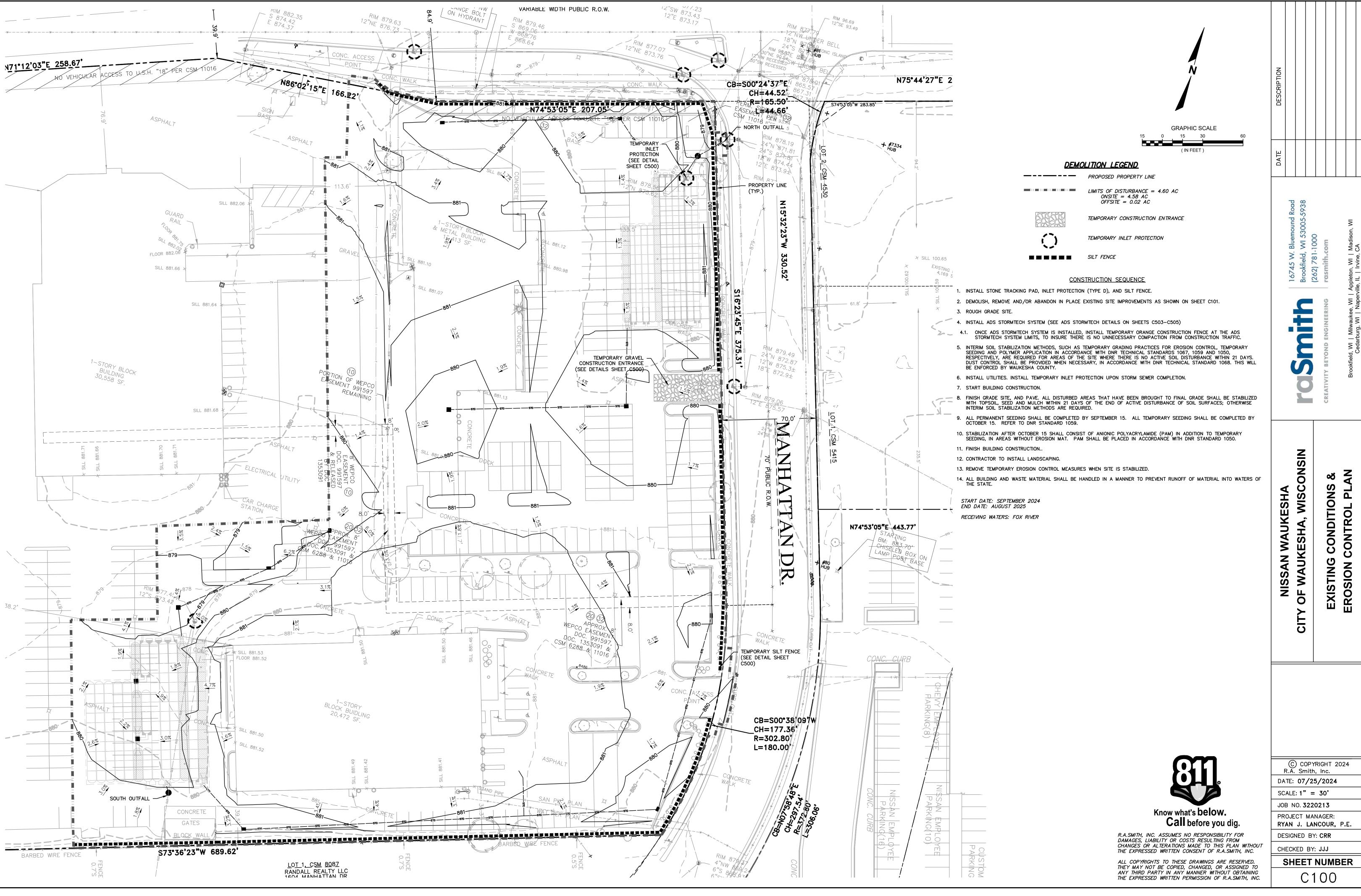
JEREMY J. BROOKFIELD /45

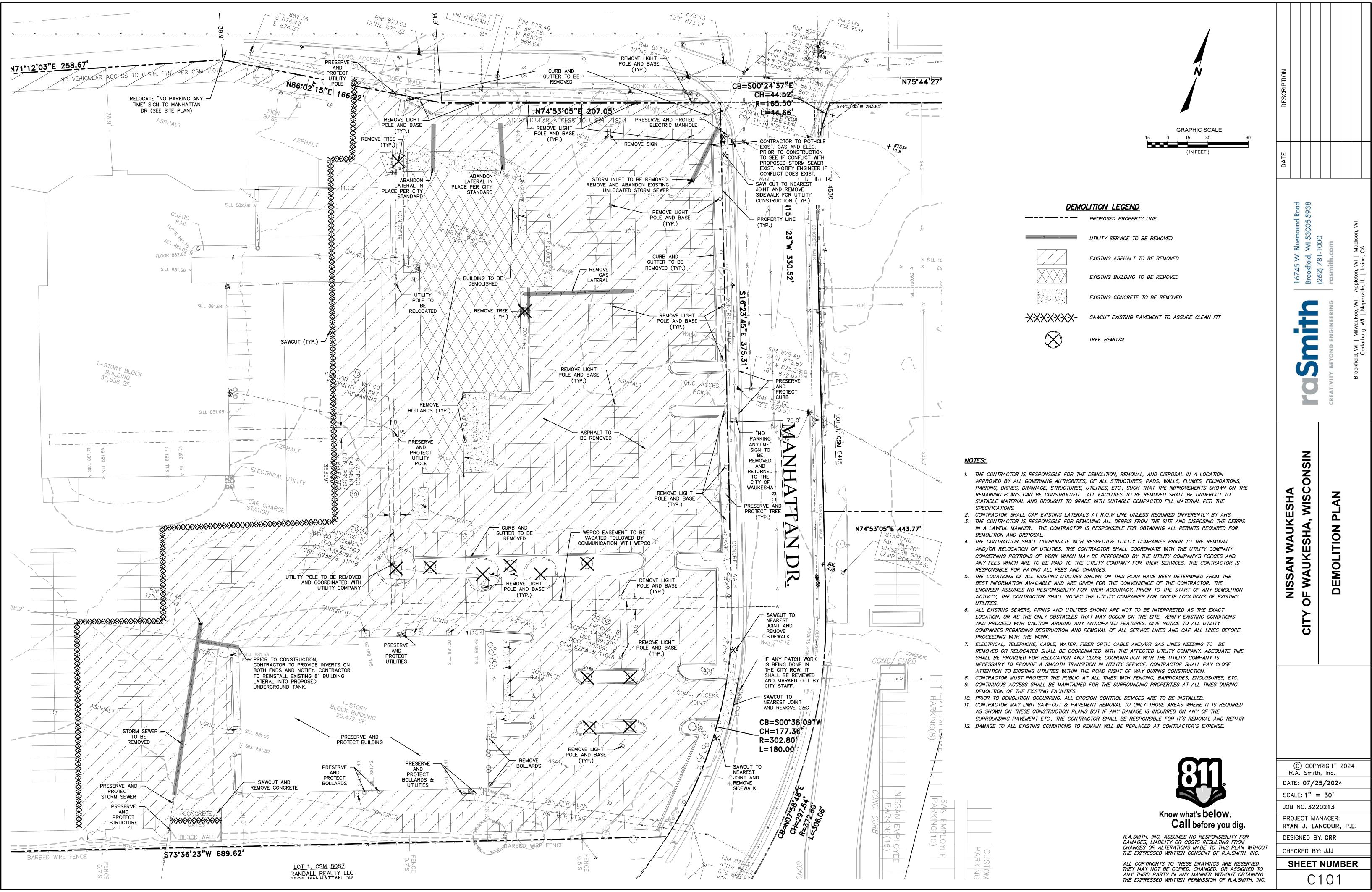
07/25/2024

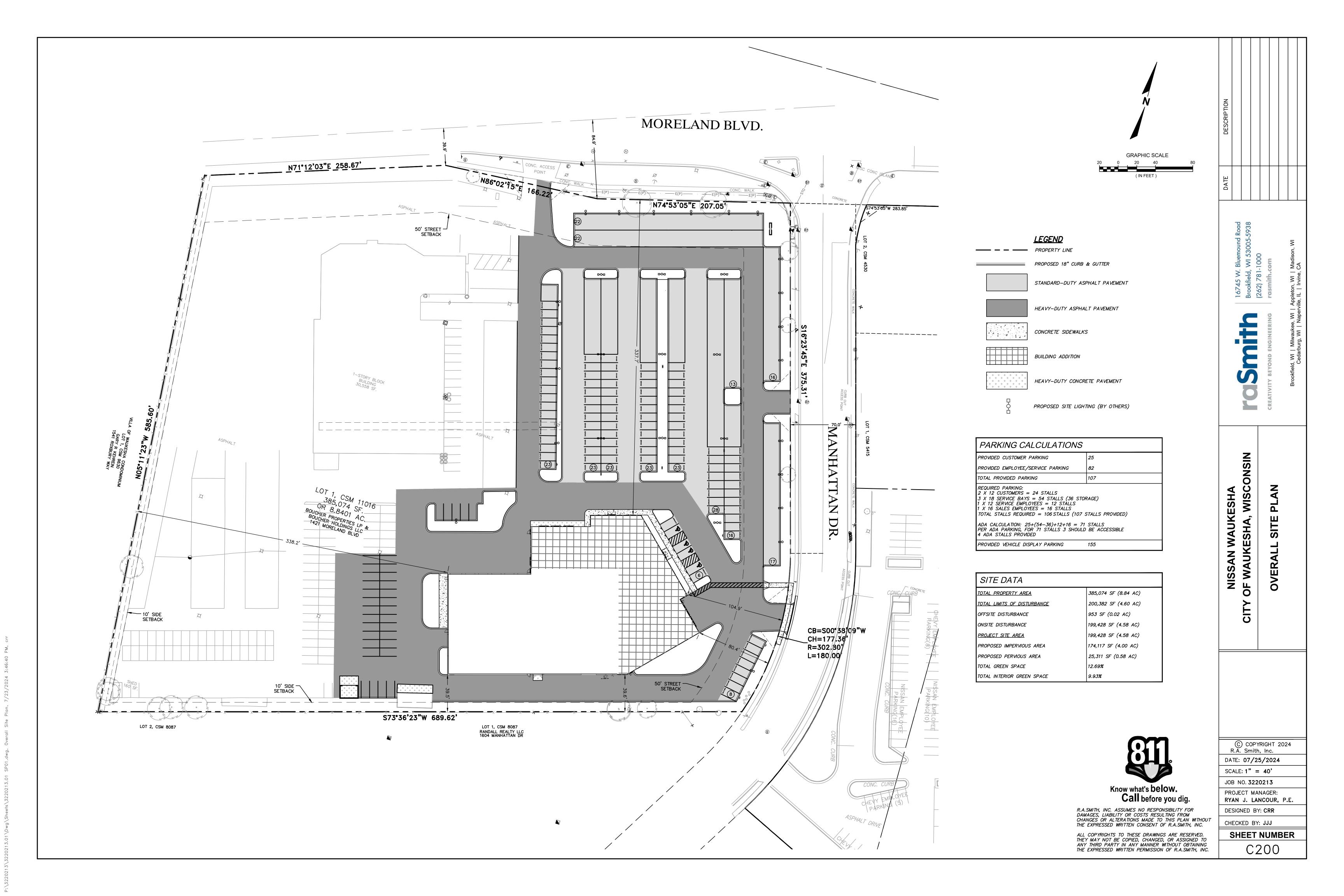
© COPYRIGHT 2024 R.A. Smith, Inc. DATE: **07/25/2024** SCALE: NTS JOB NO. **3220213** PROJECT MANAGER: RYAN J. LANCOUR, P.E. DESIGNED BY: CRR CHECKED BY: JJJ

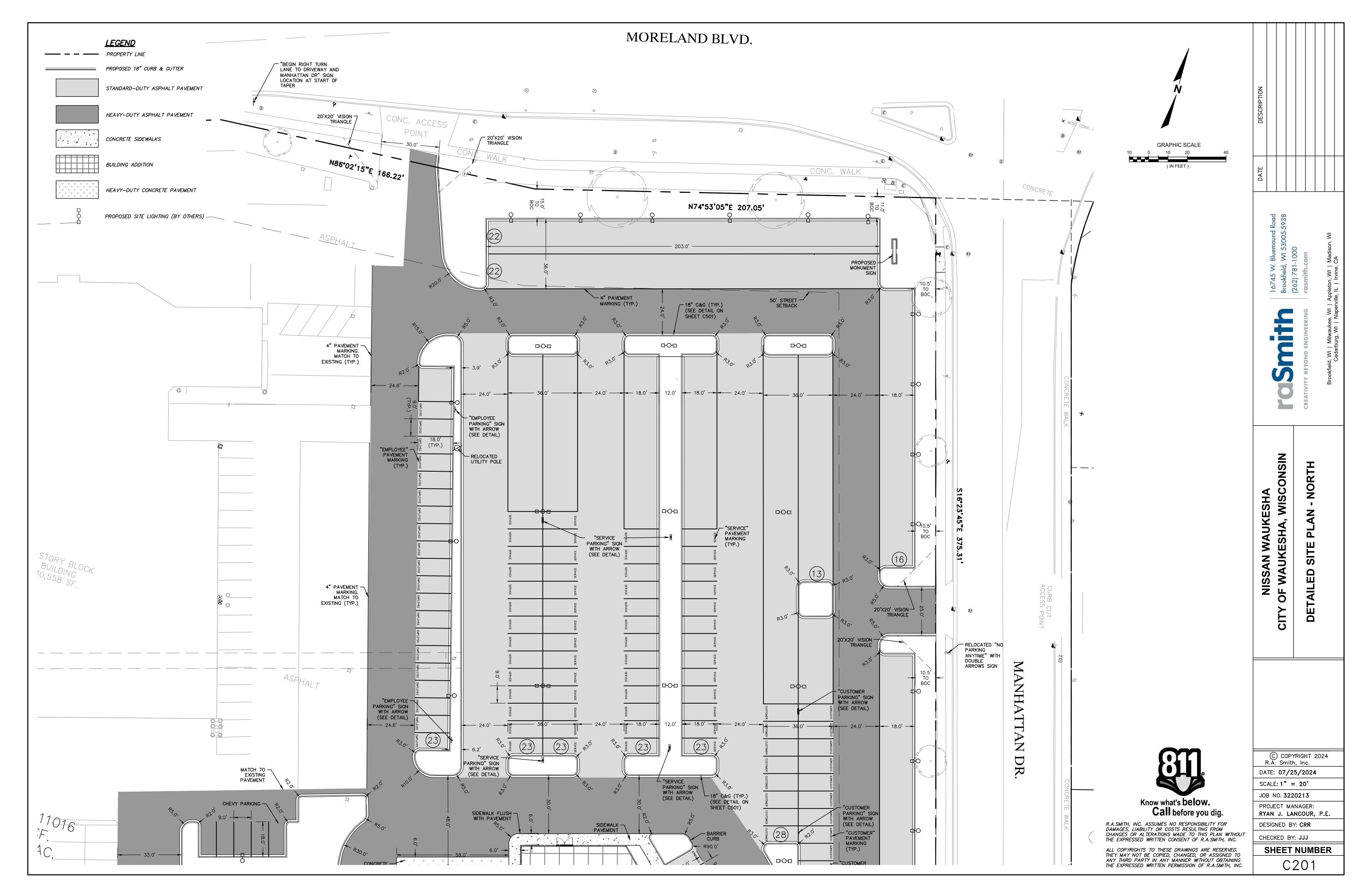
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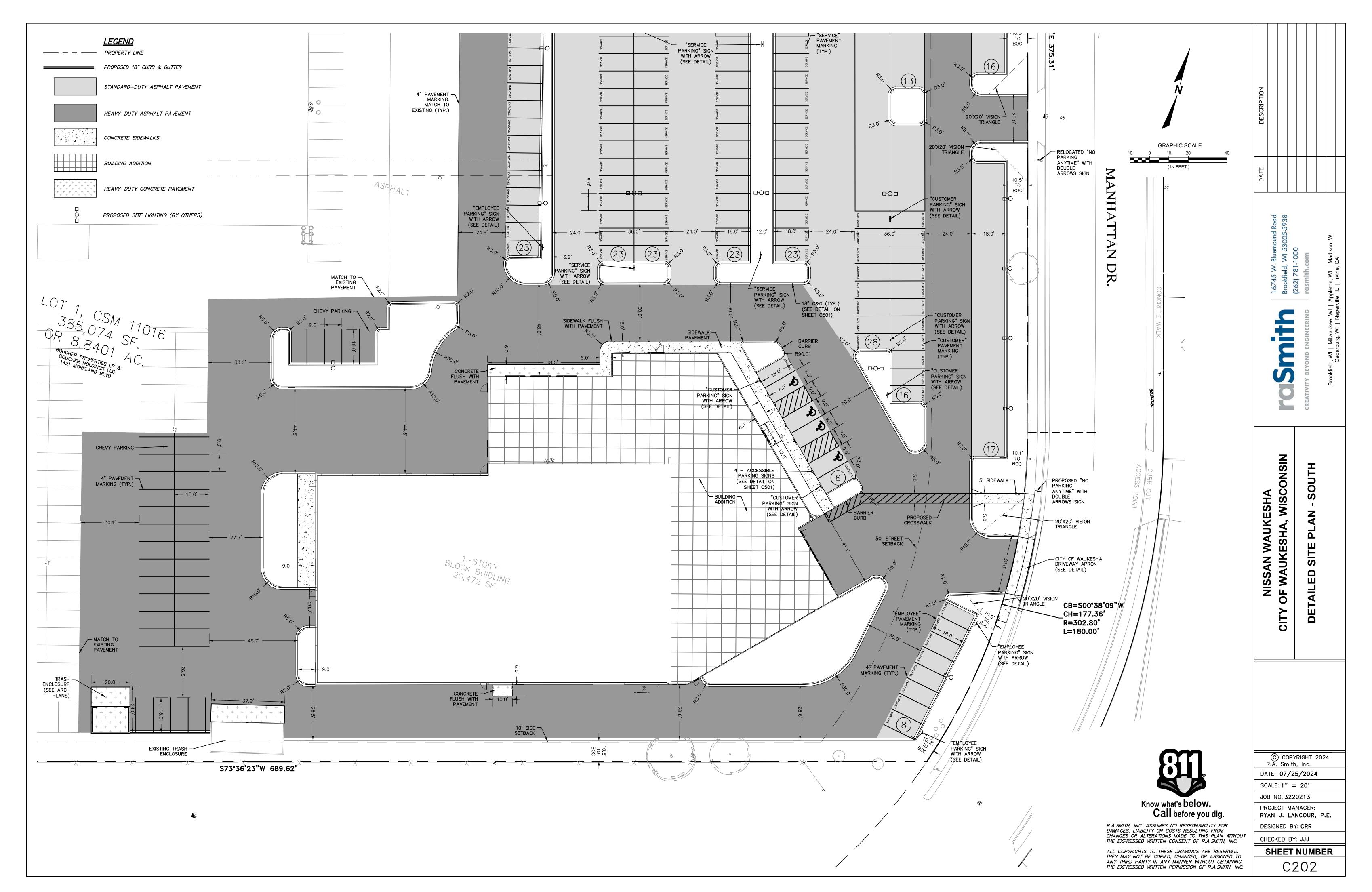




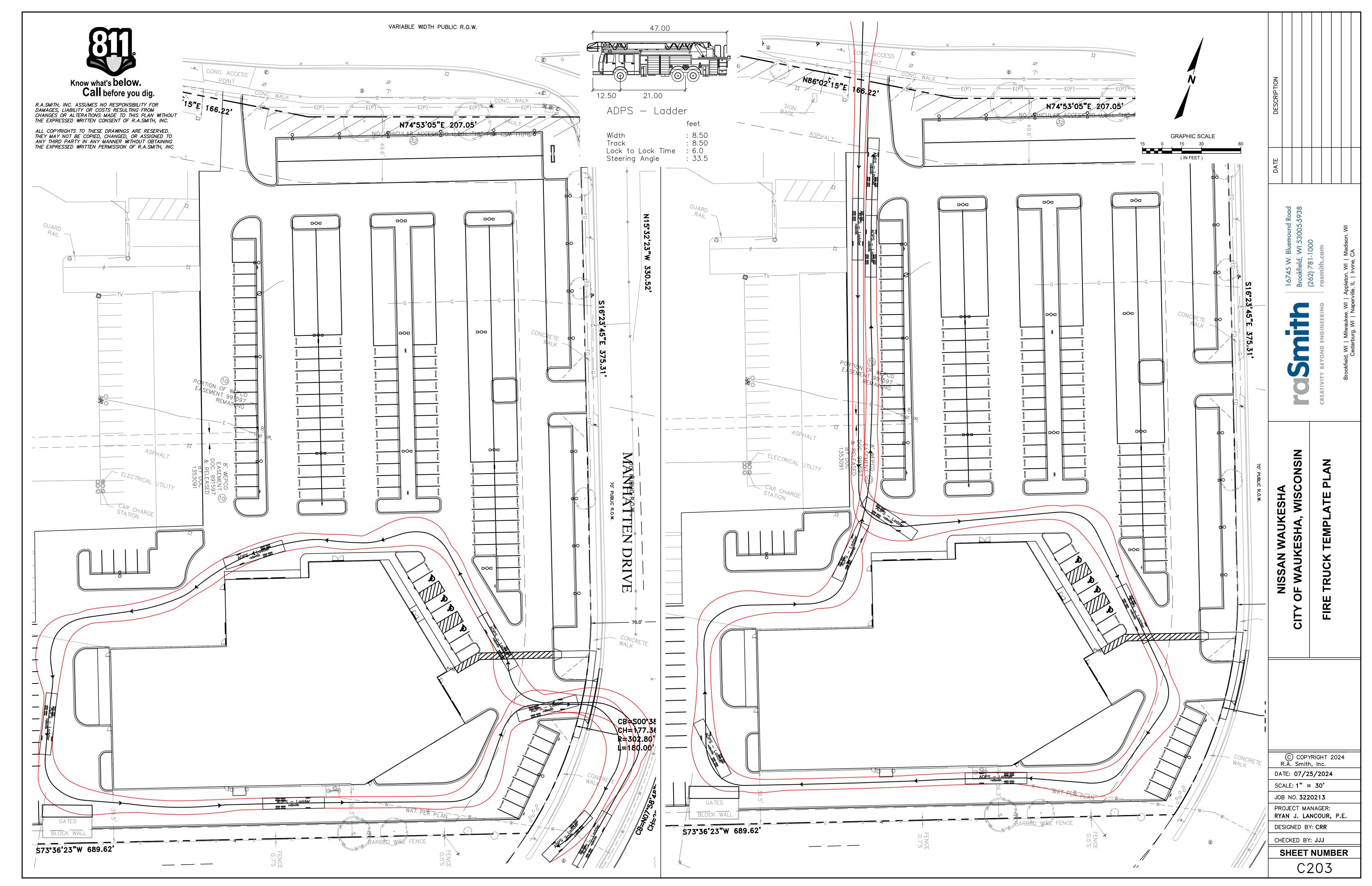




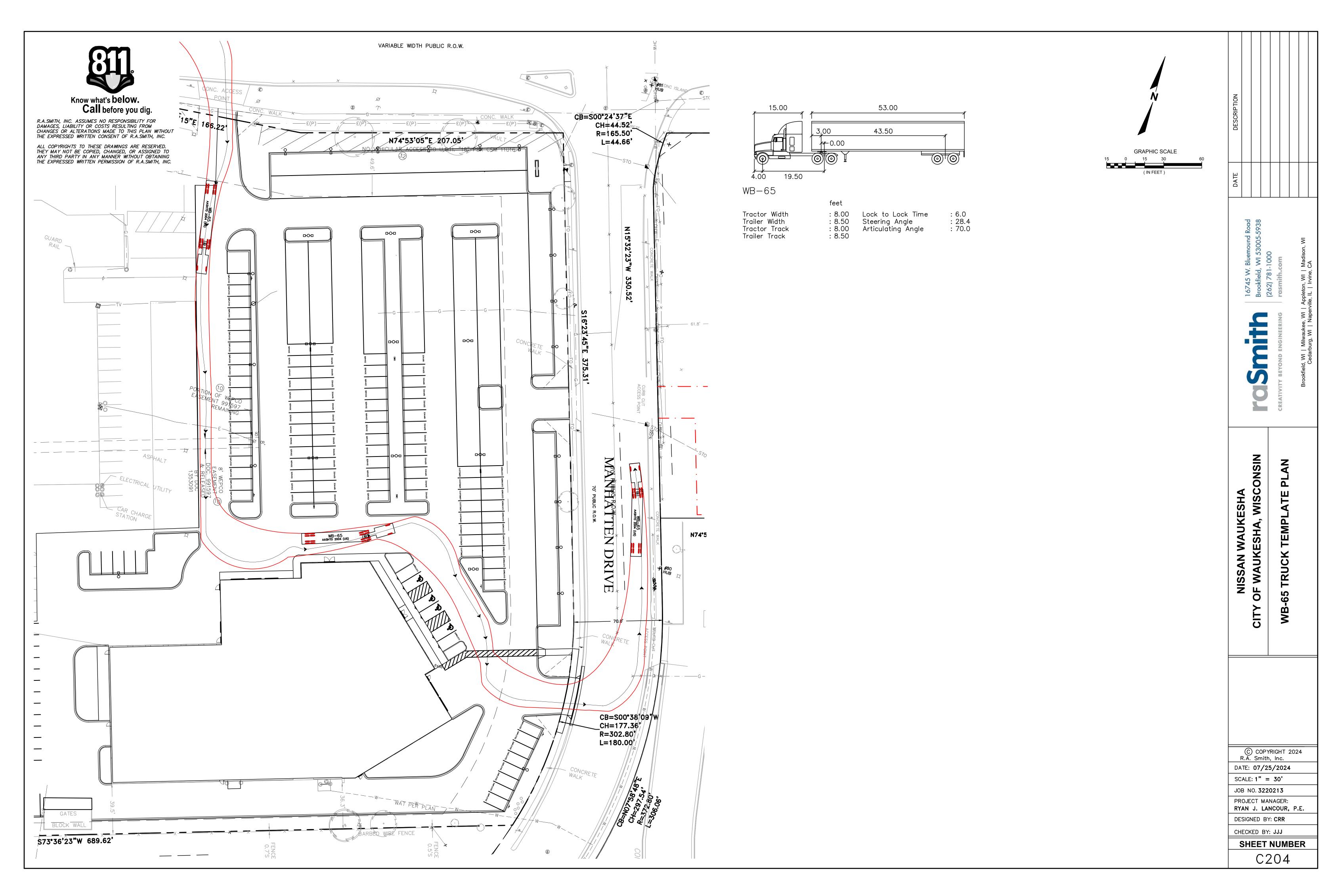
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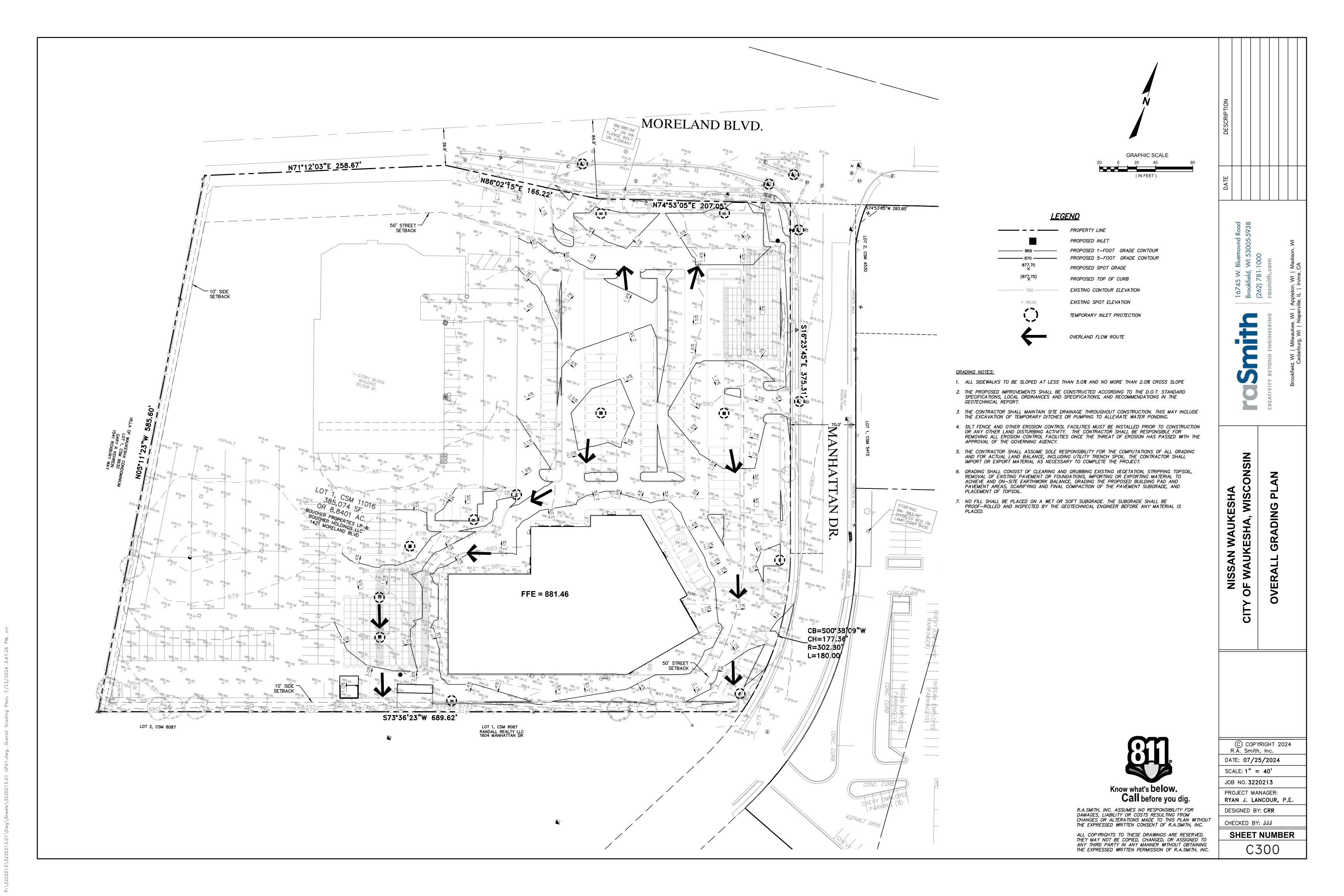
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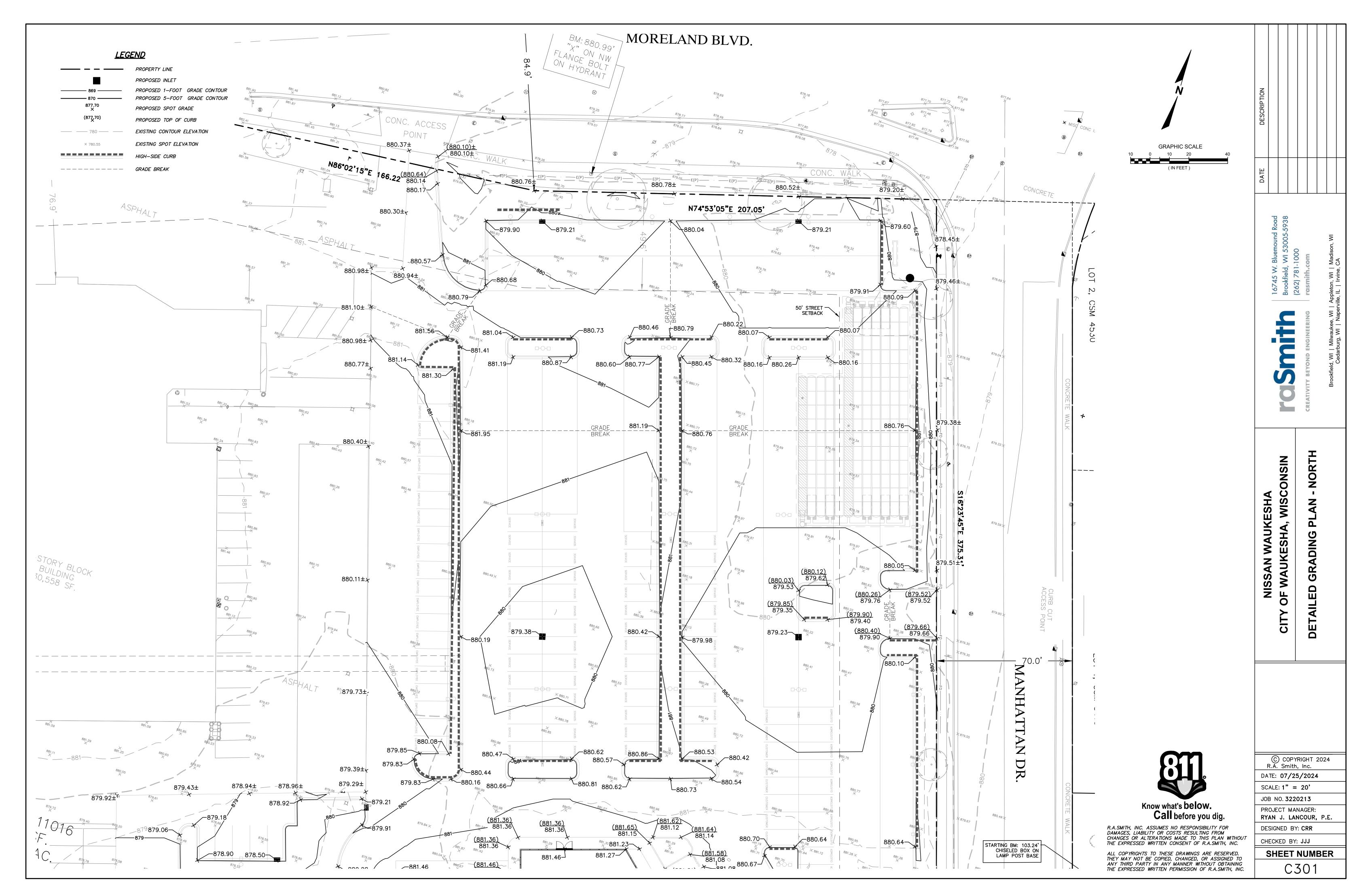


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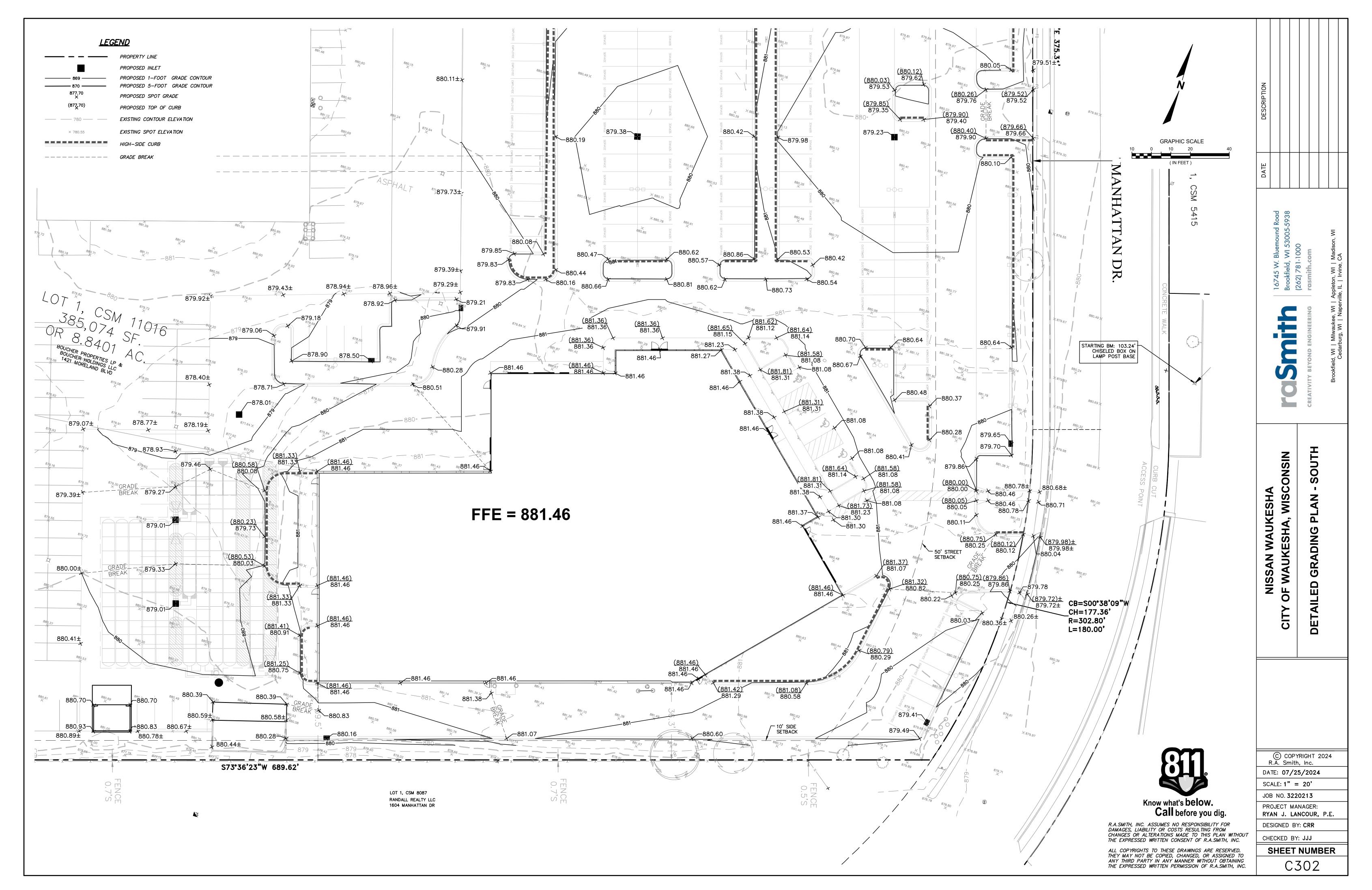


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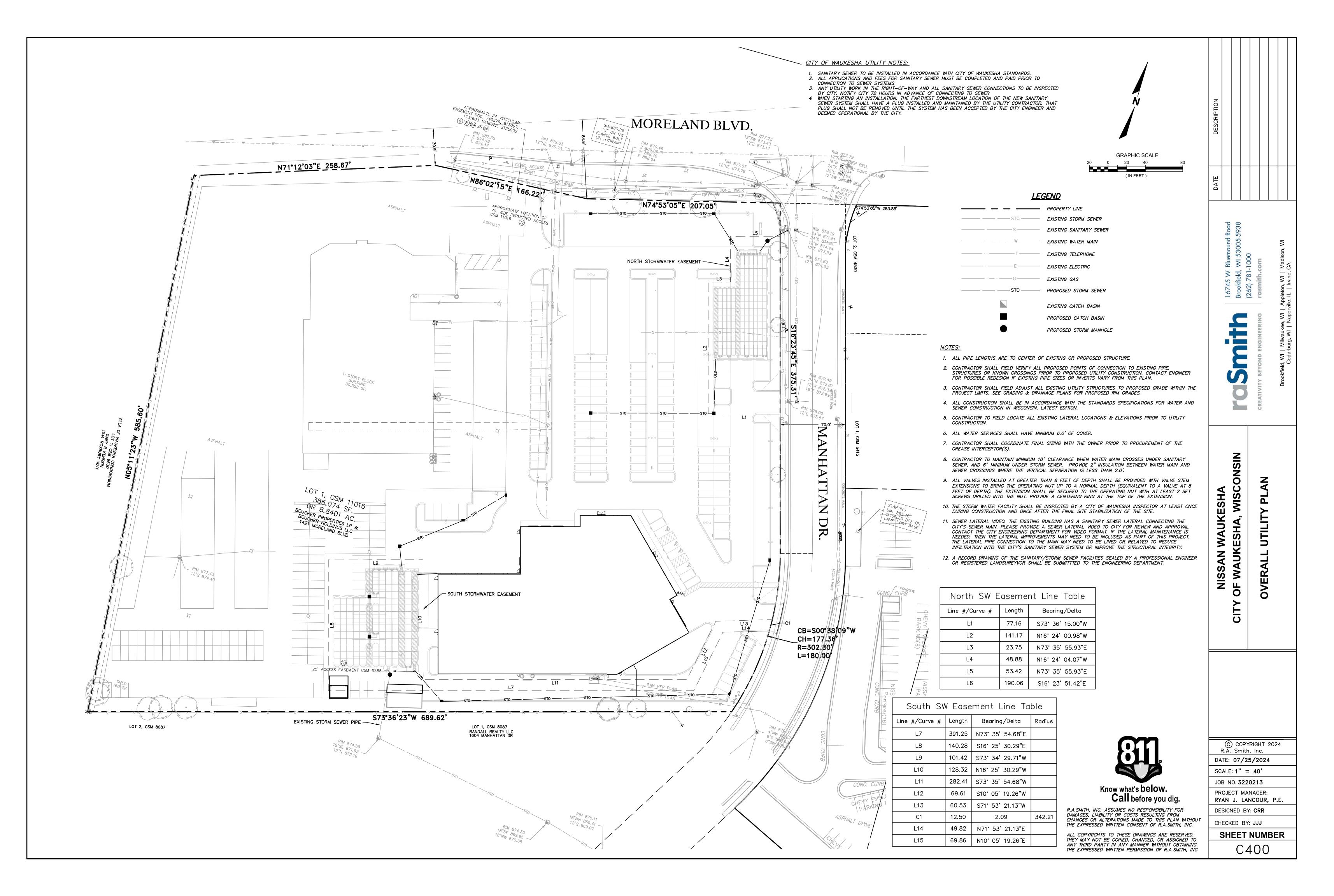




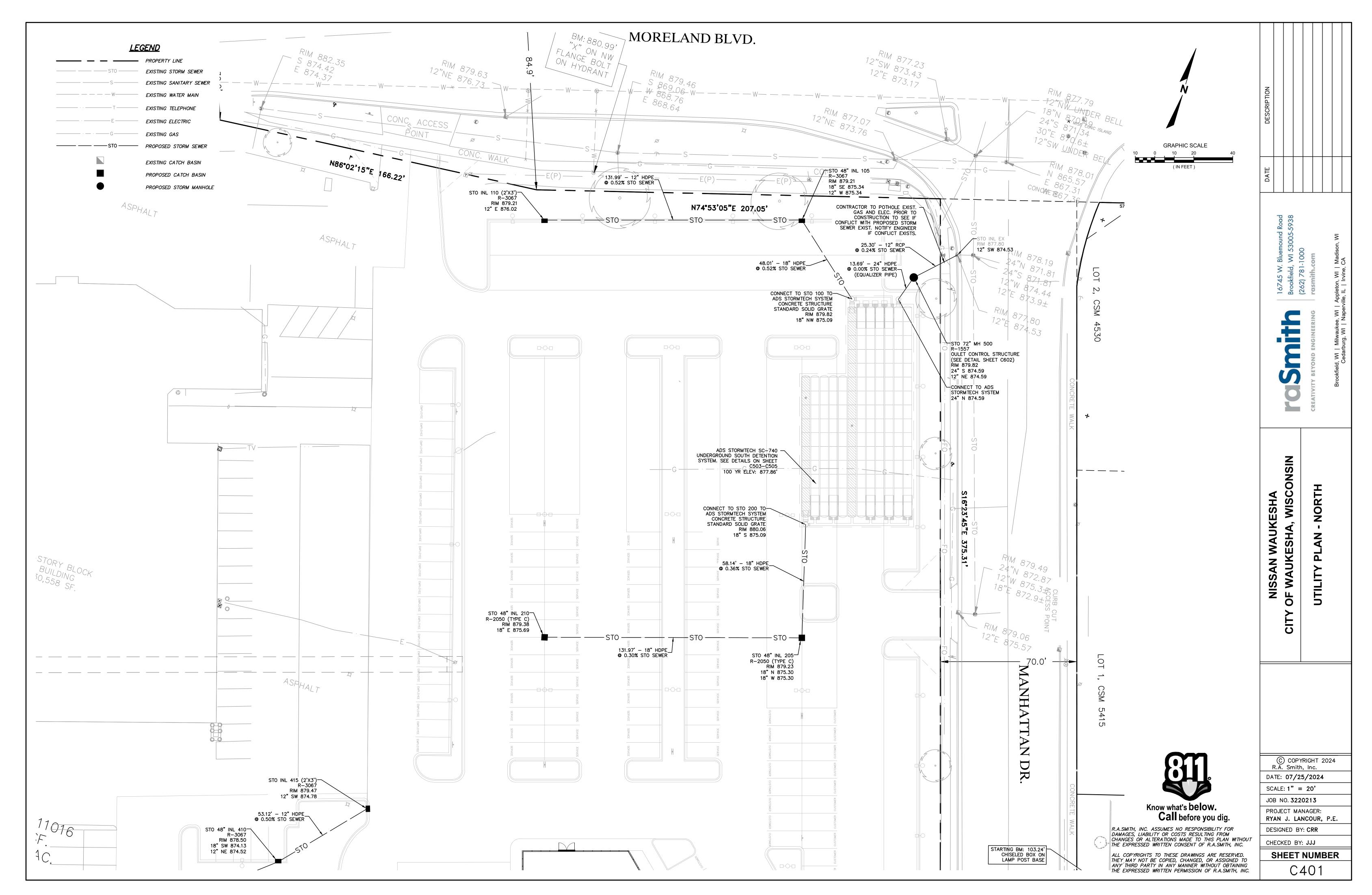
213.01\Dwg\Sheets\3220213.01 GP02.dwg, Grading Plan — Nor



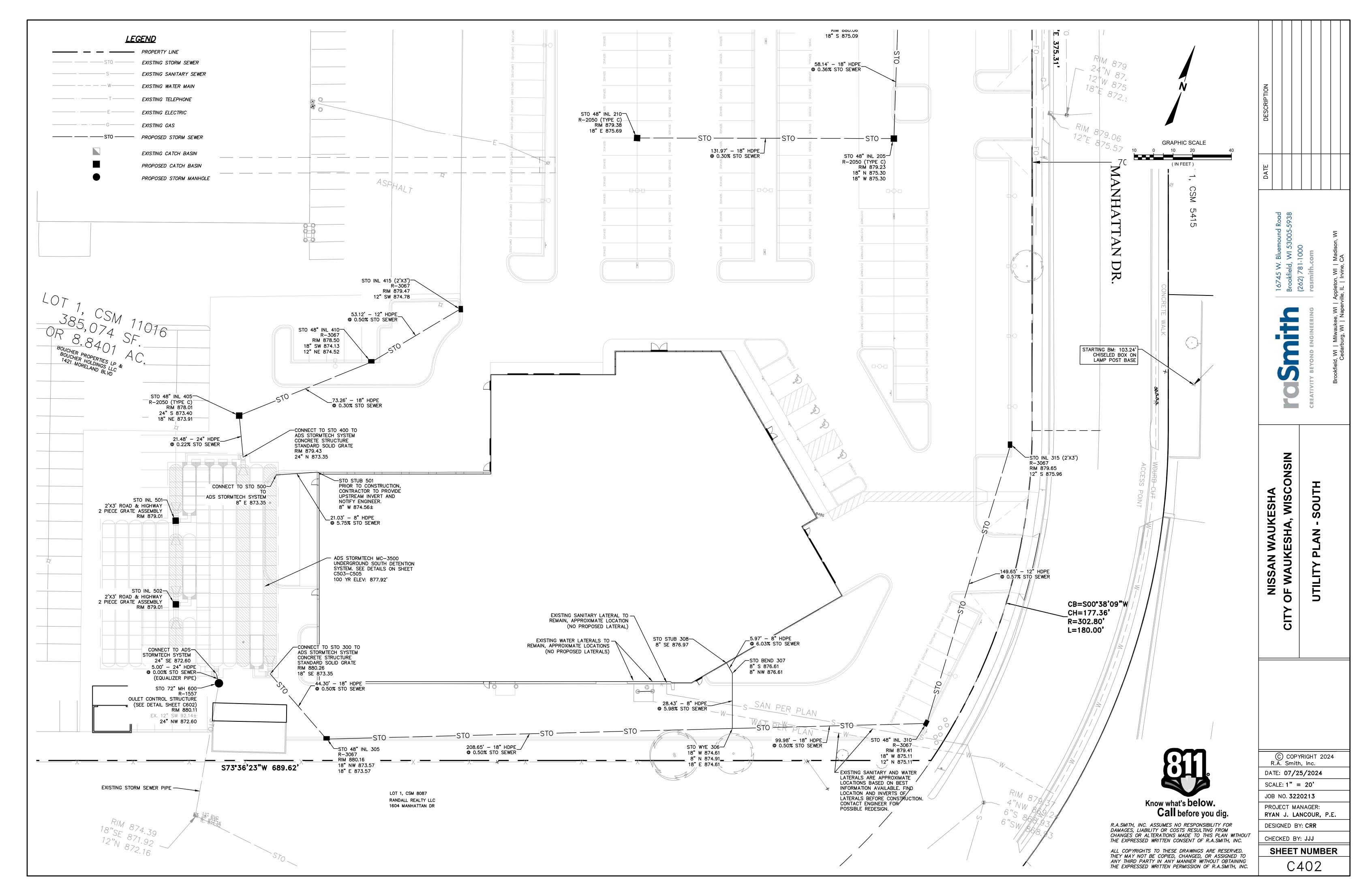
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\$220213\3220213.01\Dwg\Sheets\3220213.01 UP01.dwg, Overall Utility



\3220213.01\Dwg\Sheets\3220213.01 UP02.dwg, Utility Plan — North, 7/23/2024



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FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL. FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING. FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

GENERAL NOTES:

INLET PROTECTION DEVICES SHALL CONFORM TO WDNR CONSERVATION PRACTICE STANDARD 1060 AND BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE WISDOT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED IF ALLOWED BY

TYPE A IS TO BE USED PRIOR TO PAVING AND TYPED B, C, AND D ARE TO USED AFTER PAVING IS PLACED.

TYPE A SHALL BE USED AROUND INLETS AND UNPAVED AREAS UNTIL PERMANENT STABILIZATION METHODS HAVE BEEN ESTABLISHED

TYPE B SHALL BE USED AFTER THE CASTING AND GRATE ARE IN PLACE.

TYPE C SHALL BE USED ON STREET INLETS WITH CURB HEADS.

TYPE D SHALL BE USED IN AREAS WHERE OTHER TYPES OF INLET PROTECTION ARE INCOMPATIBLE WITH ROADWAY AND TRAFFIC CONDITIONS (I.E. POSSIBLE SAFETY HAZARD IF PONDING OCCURS.)

INSTALLATION NOTES:

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

SILT FENCE DETAIL

(NOT TO SCALE)

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG. USING PLASTIC ZIP TIES. TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM

MAINTENANCE:

REMOVE INLET PROTECTION DEVICES ONCE THE CONTRIBUTING DRAINAGE AREA IS STABILIZED WITH APPROPRIATE VEGETATION OR IMPERVIOUS AREA.

INLET PROTECTION SHALL BE, AT A MINIMUM, INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER EVERY PRECIPITATION EVENT THAT PRODUCES 0.5 INCHES OF RAIN OR MORE DURING A 24-HOUR PERIOD.

SEDIMENT DEPOSITS SHALL BE REMOVED AND THE INLET PROTECTION DEVICE RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED BETWEEN 1/3 TO 1/2 THE DESIGN DEPTH OF THE DEVICE, OR WHEN THE DEVICE IS NO LONGER FUNCTIONING AS DESIGNED. REMOVED SEDIMENT SHALL BE

WHEN REMOVING OR MAINTAINING INLET PROTECTION, DUE CARE SHALL BE TAKEN TO ENSURE SEDIMENT DOES NOT FALL INTO THE INLET AND IMPEDE THE INTENDED FUNCTION OF THE DEVICE. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

STORM DRAIN INLET PROTECTION DETAILS

1. SILT FENCE INSTALLATION AND MATERIALS SHALL CONFORM TO WONR CONSERVATION STANDARD 2. SILT FENCE SHALL BE PLACED ON THE CONTOUR AND NOT PERPENDICULAR TO THE CONTOUR. THE

ENDS SHALL BE EXTENDED UPSLOPE TO PREVENT WATER FROM FLOWING AROUND THE ENDS OF

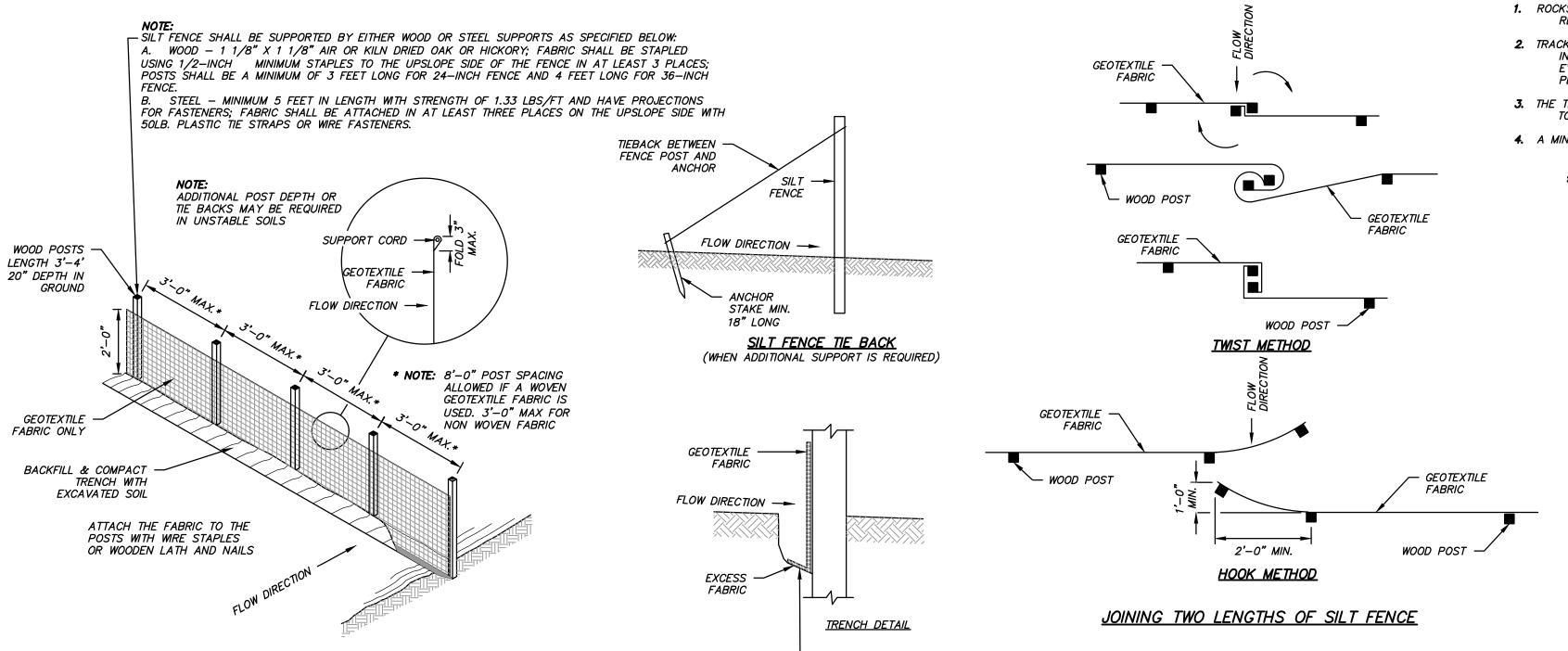
3. WHEN SILT FENCE IS INSTALLED ON A SLOPE, THE PARALLEL SPACING SHALL NOT EXCEED THE REQUIREMENTS IN THE TABLE BELOW:

SLOPE	FENCE SPACING
< 2%	100 FEET
2 TO 5%	75 FEET
5 TO 10%	50 FEET
10 TO 33%	25 FEET
> 33%	20 FEET

- 4. INSTALLED SILT FENCES SHALL BE MINIMUM 14 INCHES HIGH AND A MAXIMUM OF 28 INCHES IN HEIGHT MEASURED FROM THE INSTALLED GROUND ELEVATION.
- 5. A MINIMUM OF 20 INCHES OF THE POST SHALL EXTEND INTO THE GROUND AFTER INSTALLATION. 6. SILT FENCE SHALL BE ANCHORED BY SPREADING AT LEAST 8 INCHES OF THE FABRIC IN A 4-INCH TRENCH WIDE BY 6-INCH DEEP TRENCH, OR 6-INCH V-TRENCH ON THE UPSLOPE SIDE OF THE FENCE. TRENCH SHALL BE BACKFILLED AND COMPACTED. TRENCHES SHALL NOT BE EXCAVATED
- 7. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS:
- A) TWIST METHOD--OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES.
- HOOK METHOD--HOOK THE END OF EACH SILT FENCE LENGTH.

WIDER THAN NECESSARY FOR PROPER INSTALLATION.

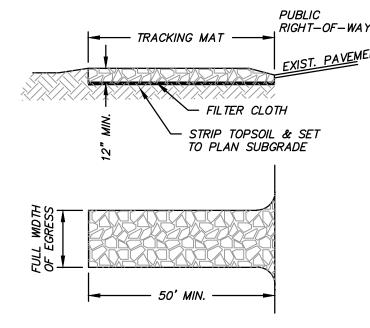
- 8. SILT FENCE SHALL AT A MINIMUM BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER EACH PRECIPITATION EVENT THAT PRODUCES 0.5 INCHES OF RAIN OR MORE DURING A 24-HOUR PERIOD.
- 9. DAMAGED OR DECOMPOSED FENCES, UNDERCUTTING, OR FLOW CHANNELS AROUND THE END OF BARRIERS SHALL BE REPAIRED OR CORRECTED.
- 10. SEDIMENT SHALL BE PROPERLY DISPOSED OF ONCE THE DEPOSITS REACH ONE HALF THE HEIGHT
- 11. SILT FENCES SHALL BE REMOVED ONCE THE DISTURBED AREA IS PERMANENTLY STABILIZED AND IS NO LONGER SUSCEPTIBLE TO EROSION.



1. TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY

AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.

AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH



CONSIDERATIONS:

- 1. TIRE WASHING AND TRACKING PAD TO CONFORM TO WONR CONSERVATION PRACTICE STANDARD 1057.
- 2. VEHICLES TRAVELING ACROSS THE TRACKING PAD SHOULD MAINTAIN A SLOW CONSTANT SPEED.
- 3. THE BEST APPROACH TO PREVENTING OFF-SITE TRACKING IS TO RESTRICT VEHICLES TO STABILIZED AREAS.
- 4. IT IS ALWAYS PREFERABLE TO PREVENT SEDIMENT FROM BEING DEPOSITED UPON THE ROAD THAN CLEANING THE ROAD LATER. SEDIMENT ON A ROAD CAN CREATE A
- SAFETY HAZARD AS WELL AS A POLLUTION PROBLEM. 5. ANY SEDIMENT TRACKED ONTO A PUBLIC OR PRIVATE ROAD SHOULD BE REMOVED BY STREET CLEANING, NOT

- A. TRACKING PAD:
- 1. THE TRACKING PAD SHALL BE INSTALLED PRIOR TO ANY TRAFFIC LEAVING THE

FLUSHING, BEFORE THE END OF EACH WORKING DAY.

- 2. THE AGGREGATE FOR TRACKING PADS SHALL BE 3"- 6" CLEAR OR WASHED STONE. ALL MATERIAL SHALL BE RETAINED ON A 3-INCH SIEVE.
- 3. THE AGGREGATE SHALL BE PLACED IN A LAYER AT LEAST 12 INCHES THICK. ON SITES WITH A HIGH WATER TABLE, OR WHERE SATURATED CONDITIONS ARE EXPECTED DURING THE LIFE OF THE PRACTICE, STONE TRACKING PADS SHALL BE UNDERLAIN WITH A WISDOT TYPE R GEOTEXTILE FABRIC TO PREVENT MIGRATION OF UNDERLYING SOIL INTO THE STONE.
- 4. THE TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT. THE TRACKING PAD SHALL BE A MINIMUM OF 50 FEET LONG.
- 5. SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY FROM TRACKING PADS OR CONVEYED UNDER AND AROUND THEM BY USING A VARIETY OF PRACTICES, SUCH AS CULVERTS, WATER BARS, OR OTHER SIMILAR PRACTICES.

IF CONDITIONS ON THE SITE ARE SUCH THAT THE SEDIMENT IS NOT REMOVED FROM VEHICLE TIRES BY THE TRACKING PAD, THEN TIRES SHALL BE WASHED UTILIZING PRESSURIZED WATER BEFORE ENTERING A PUBLIC ROAD.

- 1. THE WASHING STATION SHALL BE LOCATED ON-SITE ON AN AREA THAT IS STABILIZED AND DRAINS INTO A SUITABLE SEDIMENT TRAPPING OR SETTLING
- 2. THE WASH RACK SHALL CONSIST OF A HEAVY GRATING OVER A LOWERED AREA. THE RACK SHALL BE STRONG ENOUGH TO SUPPORT THE VEHICLES THAT WILL CROSS IT.

C. MAINTENANCE

- 1. ROCKS LODGED BETWEEN THE TIRES IF DUAL WHEEL VEHICLES SHALL BE REMOVED PRIOR TO LEAVING THE CONSTRUCTION SITE.
- 2. TRACKING PADS AND TIRE WASHING STATIONS SHALL, AT AT MINIMUM. BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER EVERY PRECIPITATION EVENT THAT PRODUCES 0.5 INCHES OF RAIN OR MORE DURING A 24-HOUR
- 3. THE TRACKING PAD PERFORMANCE SHALL BE MAINTAINED BY SCRAPING OR TOP-DRESSING WITH ADDITIONAL AGGREGATE.
- 4. A MINIMUM 12-INCH THICK PAD SHALL BE MAINTAINED.

STONE TRACKING PAD AND TIRE WASHING DETAIL (NOT TO SCALE)



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R.A. Smith, Inc. DATE: **07/25/2024**

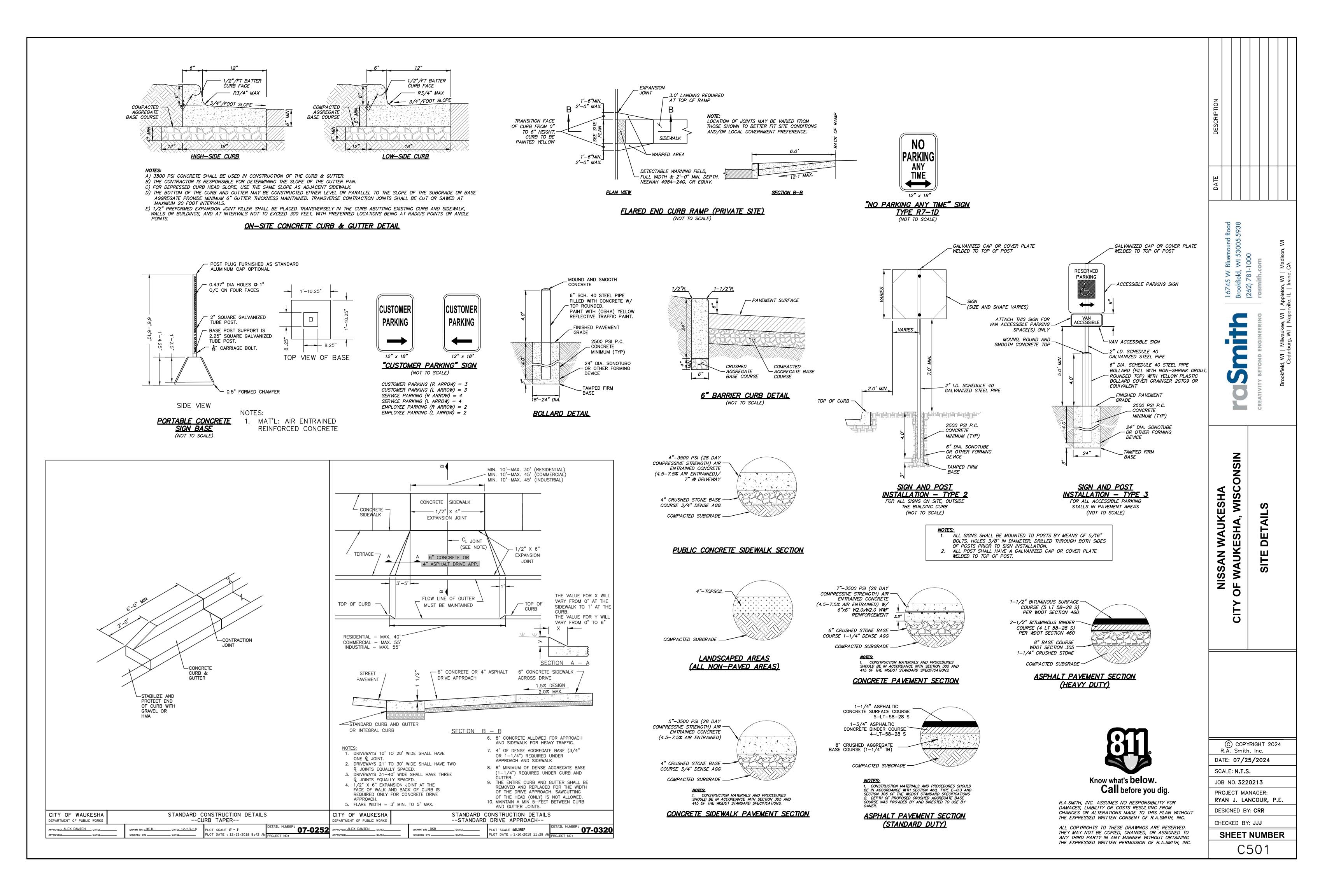
SCALE: N.T.S. JOB NO. **3220213**

PROJECT MANAGER: RYAN J. LANCOUR. P.E.

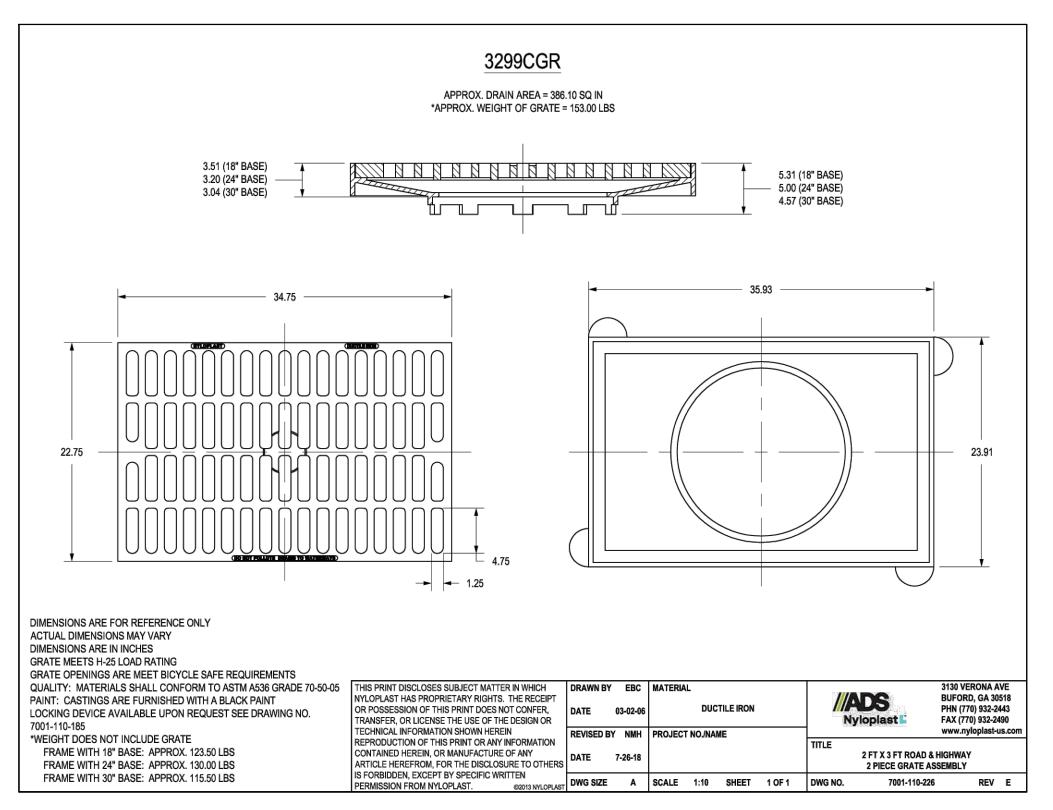
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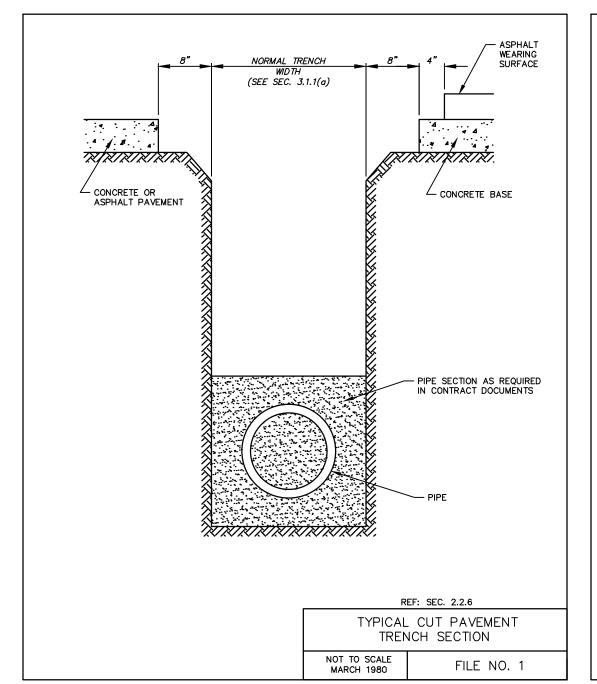
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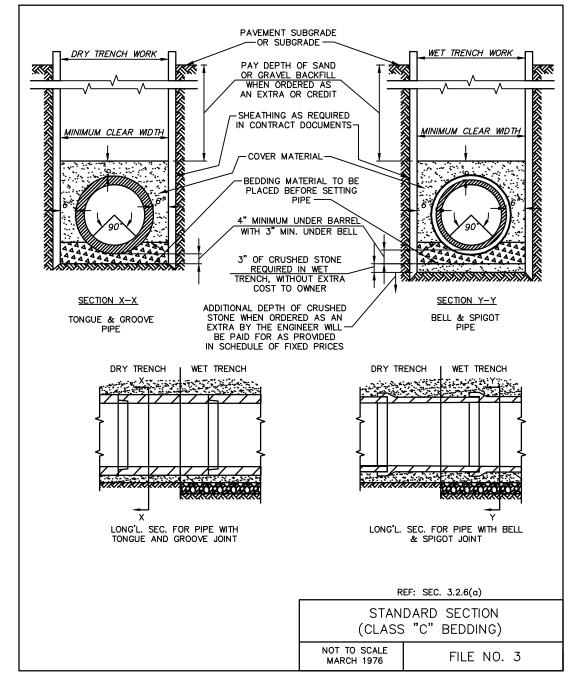


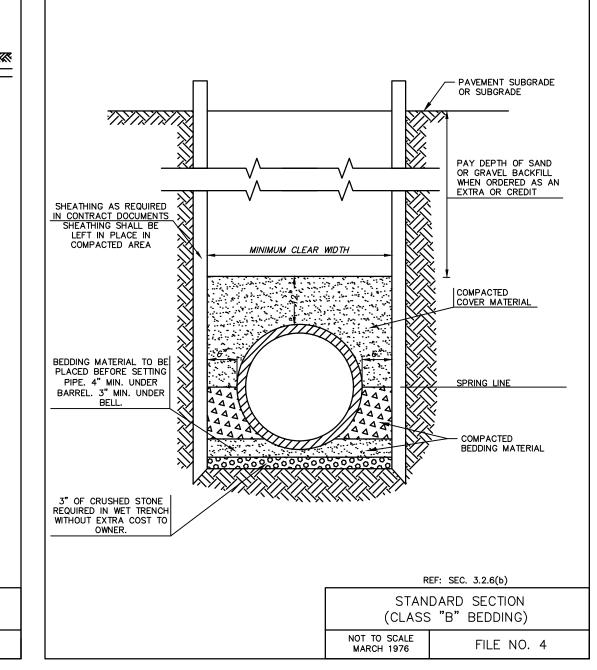
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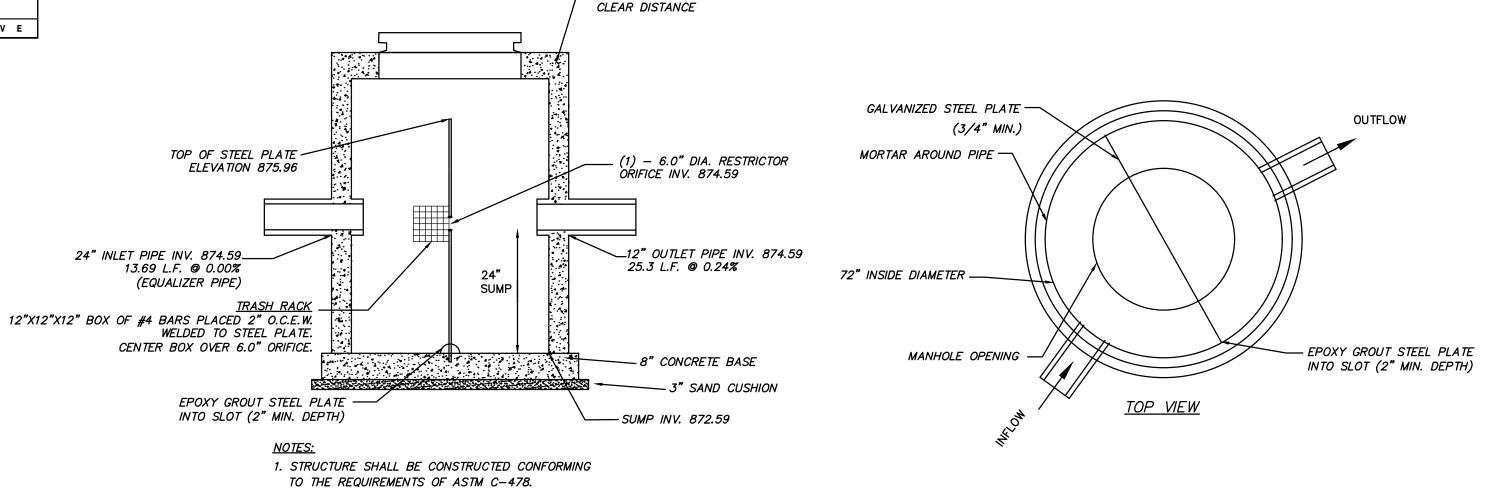




2. REINFORCING STEEL NOT SHOWN

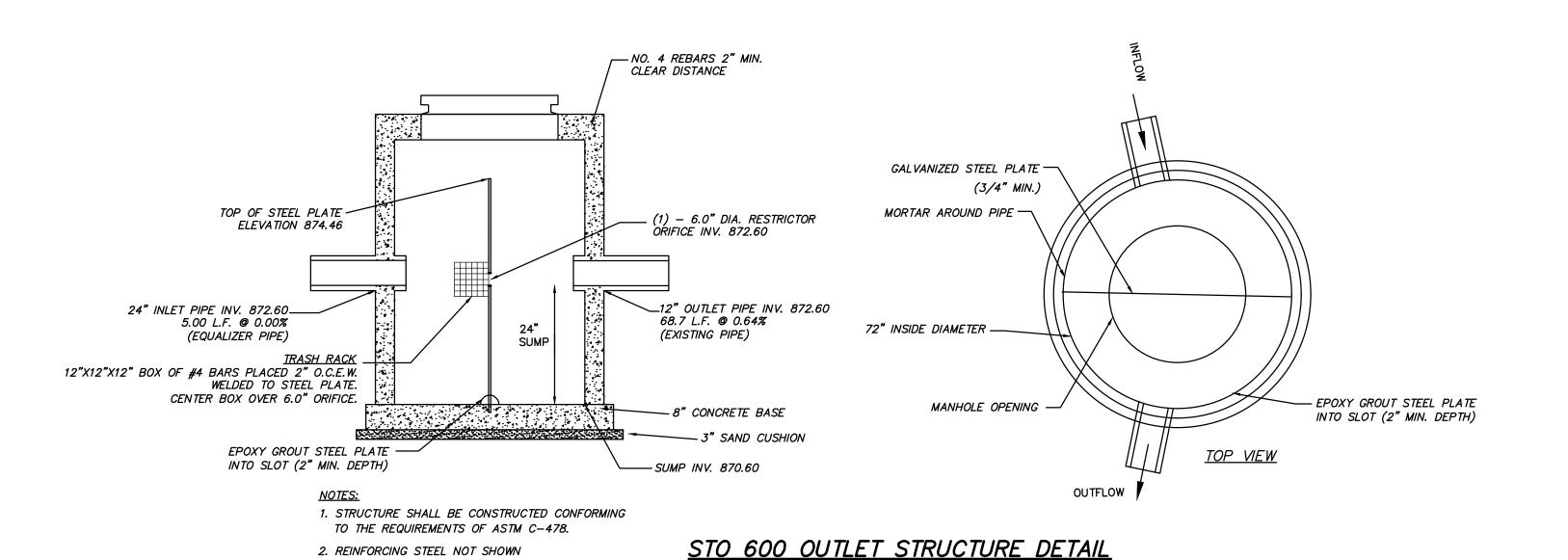






STO 500 OUTLET STRUCTURE DETAIL

___ NO. 4 REBARS 2" MIN.





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5 W. Bluemound Road		
dield. WI 53005-5938		
781.1000		
IIII.COIII		
WI Madison, WI		
rvine, CA		

ONSIN NISSAN WAUKESHA F WAUKESHA, WISC DE

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R.A. Smith, Inc. DATE: **07/25/2024** SCALE: N.T.S.

JOB NO. **3220213**

PROJECT MANAGER: RYAN J. LANCOUR, P.E. DESIGNED BY: CRR

CHECKED BY: JJJ SHEET NUMBER

C502

PROJECT INFORMATION						
ENGINEERED PRODUCT MANAGER						
ADS SALES REP						
PROJECT NO.						

1. CHAMBERS SHALL BE STORMTECH MC-3500.

FROM REFLECTIVE GOLD OR YELLOW COLORS.





INVERT ABOVE BASE OF CHAMBE

PROJECT INFORMATION						
NGINEERED PRODUCT ANAGER						
DS SALES REP						
ROJECT NO.						



NISSAN



WAUKESHA, WI, USA

MC-3500 STORMTECH CHAMBER SPECIFICATIONS

- 2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418. "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
- 4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
- CHAMBERS SHALL BE DESIGNED. TESTED AND ALLOWARI ELIOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
- REQUIREMENTS FOR HANDLING AND INSTALLATION: • TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING
- STACKING LUGS. TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS.
- TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR FOUAL TO 450 LBS/FT/% THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418, AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED
- 8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE
- DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS: THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
- THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO
- I RED BRIDGE DESIGN SPECIFICATIONS FOR THERMOPI ASTIC PIPE THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
- 9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-3500 CHAMBER SYSTEM

- 1. STORMTECH MC-3500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- 2. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
- CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS: STONESHOOTER LOCATED OFF THE CHAMBER BED.
- BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE. BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
- 4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
- 6. MAINTAIN MINIMUM 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.

STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

- 7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
- EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE MEETING THE AASHTO M43 DESIGNATION OF #3
- 9. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
- 10. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN
- ENGINEER. 11. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE

NOTES FOR CONSTRUCTION EQUIPMENT

- 1. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
- 2. THE USE OF EQUIPMENT OVER MC-3500 CHAMBERS IS LIMITED:
- NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS. NO RUBBER TIRED LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE
- WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE". WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
- FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

SC-740 STORMTECH CHAMBER SPECIFICATIONS

- CHAMBERS SHALL BE STORMTECH SC-740.
- CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED
- WALL STORMWATER COLLECTION CHAMBERS" 4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD
- IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.

THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE

- CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
- REQUIREMENTS FOR HANDLING AND INSTALLATION: TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING
- TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS
- TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR FOUAL TO 550 I BS/FT/% THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418, AND b) TO RESIST CHAMBER. DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C). CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE
- DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS: THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER. THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR
- DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO I RED BRIDGE DESIGN SPECIFICATIONS FOR THERMOPI ASTIC PIPE
- THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN
- 9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

WAUKESHA, WI, USA IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-740 SYSTEM

- STORMTECH SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- STORMTECH SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
- CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
- STONESHOOTER LOCATED OFF THE CHAMBER BED BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
- BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
- THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- 5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
- 6. MAINTAIN MINIMUM 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
- EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm).
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN
- ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

- 1. STORMTECH SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
- THE USE OF CONSTRUCTION EQUIPMENT OVER SC-740 CHAMBERS IS LIMITED: NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
- . NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
- WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".

FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

PROPOSED LAYOUT: SOUTH PROPOSED LAYOUT: NORTH PROPOSED ELEVATIONS PROPOSED ELEVATIONS VABLE GRADE (TOP OF PAVEMENT/UNPAVE PART TYPE DESCRIPTION INVERT* MAX FLOW RADE (TOP OF PAVEMENT/UNPAVE PART TYPE DESCRIPTION INVERT* MAX FLOW MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC) MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC) 18" BOTTOM PREFABRICATED END CAP, PART#: SC740EPE18B / TYP OF ALL 18" BOTTOM 24" BOTTOM CORED END CAP, PART#: MC3500IEPP24BC / TYP OF ALL 24" BOTTOM MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC): MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC): PREFABRICATED END CAP DEPREFABRICATED END CAP CONNECTIONS AND ISOLATOR PLUS ROWS

24" TOP CORED END CAP, PART#: MC3500IEPP24TC / TYP OF ALL 24" TOP CONNECTIONS

18" TOP CORED END CAP, PART#: MC3500IEPP18TC / TYP OF ALL 18" TOP CONNECTIONS

INSTALL FLAMP ON 24" ACCESS PIPE / PART#: MCFLAMP (TYP 6 PLACES) CONNECTIONS
118" TOP PREFABRICATED END CAP, PART#: SC740EPE18T / TYP OF ALL 18" TOP CONNECTIONS MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT): MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT): 40 STONE VOID
INSTALLED SYSTEM VOLUME (CF) 40 STONE VOID
INSTALLED SYSTEM VOLUME (CE) 24" BOTTOM PREFABRICATED EZ END CAP, PART#: SC740ECEZ / TYP OF ALL 24" BOTTOM REFABRICATED EZ END CAP 0.10" CONNECTIONS AND ISOLATOR PLUS ROWS INSTALL FLAMP ON 24" ACCESS PIPE / PART#: SC74024RAMP (TYP 2 PLACES (PERIMETER STONE INCLUDED) PERIMETER STONE INCLUDED) 24" x 24" TOP MANIFOLD, ADS N-12 18" x 18" TOP MANIFOLD, ADS N-12 12631 (COVER STONE INCLUDED) COVER STONE INCLUDED) 18" x 18" TOP MANIFOLD, ADS N-12 12" x 12" TOP MANIFOLD, ADS N-12 18" BOTTOM CONNECTION (BASE STONE INCLUDED) SYSTEM AREA (SF) G 24" x 24" TOP MANIFOLD. ADS N-1 24" x 24" BOTTOM MANIFOLD, ADS N-12 24" BOTTOM CONNECTION H 30" DIAMETER (24.00" SUMP MIN) 11.2 CFS IN 59 NYLOPLAST (INLET .52 NYLOPLAST (INLET W/ ISC 30" DIAMETER (24.00" SUMP MIN) 30" DIAMETER (24.00" SUMP MIN) 873.52 PLUS ROW) 873.52 NYLOPLAST (INLET W/ ISC NYLOPLAST (OUTLE 4.0 CFS OUT MIS M 30" DIAMETER (24.00" SUMP MIN) 음(PLUS ROW) 873.35 NYLOPLAST (INLET W/ ISC - 118.58' N 30" DIAMETER (24.00" SUMP MIN) 8.5 CFS IN PLUS ROW) NYLOPLAST (INLET W/ ISO 30" DIAMETER (24.00" SUMP MIN) 30.2 CFS IN PLUS ROW) AUK NYLOPLASŤ (OUTL 14.0 CFS OU S WAUKI ROUN S SIN <u></u>В % Sto ISOLATOR ROW PLUS ISOLATOR ROW PLUS C) COPYRIGHT 2024 (SEE DETAIL) (SEE DETAIL) R.A. Smith, Inc. NOTES

MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6.32 FOR MANIFOLD SIZING GUIDANCE.

DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.

THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.

THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6.32 FOR MANIFOLD SIZING GUIDANCE.
 DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
 THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
 THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR PLACE MINIMUM 17.50' OF ADSPLUS125 WOVEN GEOTEXTILE OVER BEDDING PLACE MINIMUM 12.50' OF ADSPLUS625 WOVEN GEOTEXTILE OVER BEDDING DATE: **07/25/2024** STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS CHAMBER INLET ROWS SCALE: N.T.S. THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS SHEET SHEET SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS — BED LIMITS 3 OF 1 JOB NO. **3220213** 4 OF 11 NOT FOR CONSTRUCTION: THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE. NOT FOR CONSTRUCTION: THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE. PROJECT MANAGER: RYAN J. LANCOUR, P.E. R.A.SMITH, INC. ASSUMES NO RESPONSIBILITY FOR

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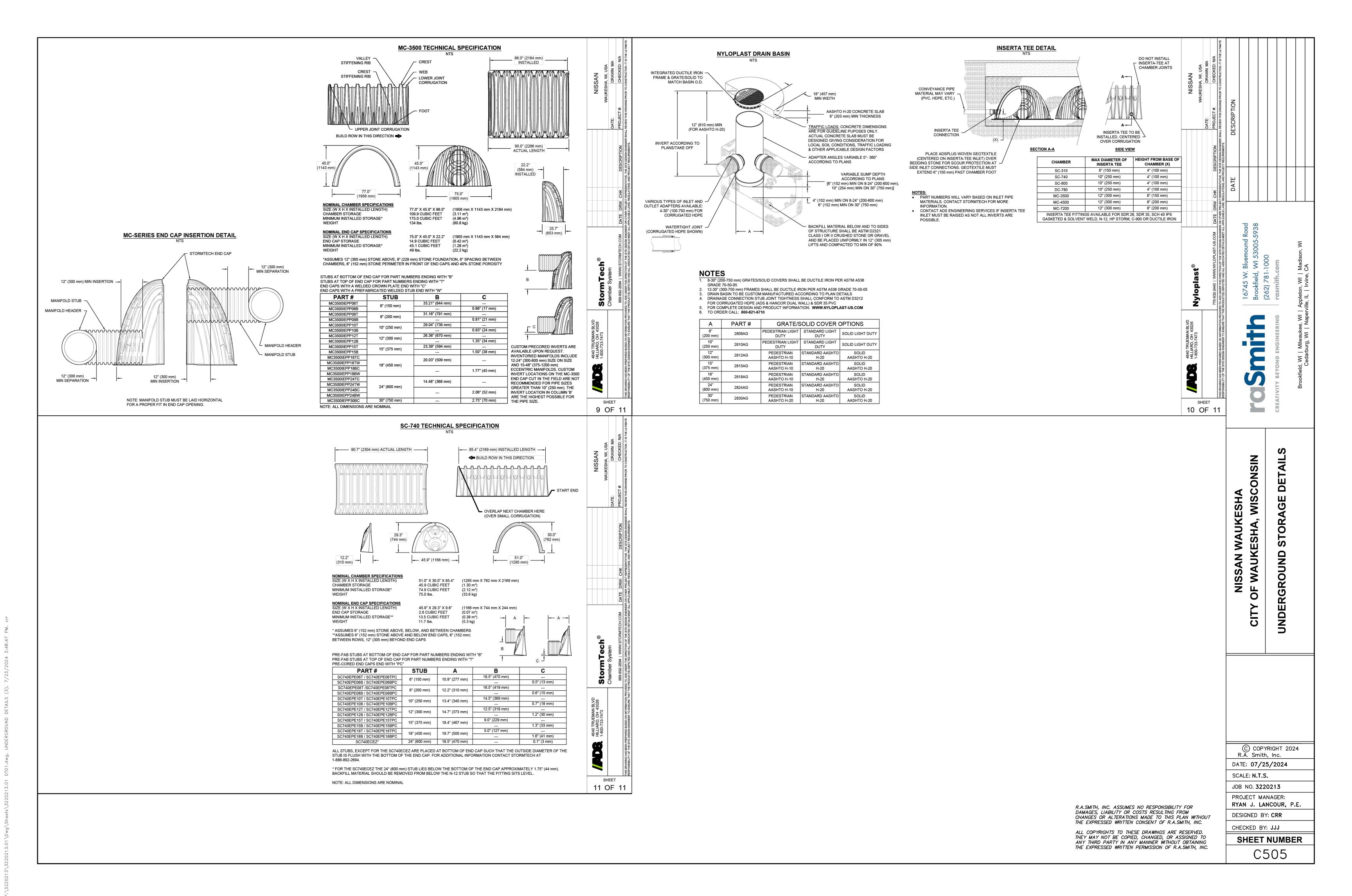
INVERT ABOVE BASE OF CHAMBER

DESIGNED BY: CRR CHECKED BY: JJJ SHEET NUMBER

53

C503

			NTE .					ATE ATE		
ACCEPTABLE FILL MATERIALS: STORMTECH MC-35			WA STHE ULTIMA	ACCEPTA	BLE FILL MATERIALS: STORMTECH SC			IVA STHE ULTIMA		
MATERIAL LOCATION DESCRIPTION FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	AASHTO MATERIAL CLASSIFICATIONS N/A	COMPACTION / DENSITY REQUIREMENT PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.	SSAN SHA, WI, USA DRAWN: MA CHECKED: N	D MATERIAL LOCATION FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D'	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	AASHTO MATERIAL CLASSIFICATIONS N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.	SSAN SHA, WI, USA DRAWN: MA CHECKED: N		
LAYER INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS	AASHTO M145¹ A-1, A-2-4, A-3 OR	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR	WAUKE WECT#:	LAYER. INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C'	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS	AASHTO M145¹ A-1, A-2-4, A-3 OR	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS	WAUKE WAUKE ECT #:	NOILLAN	
LAYER.	AASHTO M43¹ 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10 AASHTO M43¹ 3, 357, 4, 467, 5, 56, 57	PROCESSED AGGREGATE MATERIALS. NO COMPACTION REQUIRED.	DATE: PROJI	B EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	LAYER. CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE ⁵	AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10 AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57	VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN). NO COMPACTION REQUIRED.	DATE: PROJI	DESCR	
FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO CLEAN, CRUSHED, ANGULAR STONE THE FOOT (BOTTOM) OF THE CHAMBER. CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE ⁵	AASHTO M43¹ 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2,3}	PTION SIGN ENGINE	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE ⁵	AASHTO M43¹ 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2,3}	PTION SIGN ENGINE	UIREMENTS.	
PLEASE NOTE: 1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR # 2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COMPACTION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAI COMPACTION REQUIREMENTS. 4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPISE. 5. WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL	OVERAGES WITH A VIBRATORY COMPACTOR. KING OR DRAGGING WITHOUT COMPACTION EQUII PLACE THE MATERIAL REQUIREMENTS OF LAYER 'C	PMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.	PRW CHK DESCRII ROJECT REPRESENTATIVE. THE SITE DES AWS, REGULATIONS, AND PROJECT REDE	PLEASE NOTE: 1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MU 2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIAL 3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR S COMPACTION REQUIREMENTS. 4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP T 5. WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MAT	.S WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FUL STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO I	L COVERAGES WITH A VIBRATORY COMPACTOR. RAKING OR DRAGGING WITHOUT COMPACTION EQUITED THE MATERIAL REQUIREMENTS OF LAYER 19	PMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR		AWS, REGULATIONS, AND PROJECT REGU	
ADS GEOSYNTHETICS 601T NON-WOVEN GEOTEXTILE ALL AROUND CLEAN, CRUSHED, ANGULAR STONE IN A & B LAYERS	PAVEMENT LAYER (DESIGNED BY SITE DESIGN ENGINEER)	TOP OF STONE = A	DATE D	ADS GEOSYNTHETICS 601T AROUND CLEAN, CRUSHED, ANG	NON-WOVEN GEOTEXTILE ALL GULAR STONE IN A & B LAYERS	PAVEMENT LAYER (DESIGNED BY SITE DESIGN ENGINEER)	→ TOP OF STONE = A ↓	DATE D	ad 38	
PERIMETER STONE (SEE NOTE 4) EXCAVATION WALL (CAN BE SLOPED OR VERTICAL) B MC-3500 END CAP SUBGRADE SOILS (150 mm) MIN		**THIS CROSS SECTION DETAIL REPRESENTS MINIMUM REQUIREMENTS FOR INSTALLATION. PLEASE SEE THE LAYOUT SHEET(S) FOR PROJECT SPECIFIC REQUIREMENTS. IE CHAMBER = C BOTTOM OF STONE & IE OF UNDERDRAIN = D EPTH OF STONE TO BE DETERMINED (SITE DESIGN ENGINEER 9" (230 mm) MIN	Storm Tech® Chamber System 888-892-2694 www.STORMTECH.COM 888-892-2694 www.STORMTECH.COM THAT THE PRODUCTIS DEPICTED AND ALL ASSOCIATED BETALS MEET & ASSOCIATED BETALS & MEET & ASSOCIATED BETALS & MEET & ASSOCIATED BETALS & ASSOCIATE	PERIMETER STONE (SEE NOTE 4) EXCAVATION WALL (CAN BE SLOPED OR VERTICAL) 12" (300 mm) MIN		ONTIOM OF FLEXIBLE PAVEMENT, FOR UNPAVED ONS WHERE RUTTING FROM VEHICLES MAY OCCUR, INCREASE COVER TO 24" (600 mm). 6" (150 m 30" (760 n	**THIS CROSS SECTION DETAIL REPRESENTS MINIMUM REQUIREMENTS FOR INSTALLATION. PLEASE SEE THE LAYOUT SHEET(S) FOR PROJECT SPECIFIC REQUIREMENTS. IE CHAMBER = C BOTTOM OF STONE & IE OF UNDERDRAIN = D DEPTH OF STONE TO BE DETERMINED BY SITE DESIGN ENGINEER 6" (150 mm) MIN	StormTech® Chamber System 888-892-2694 www.stormTech.com	16745 W. Bluemound Ro Brookfield, WI 53005-59.	(262) 781-1000 c rasmith.com WI Appleton, WI Madison, WI
PLACE POND LINER ON TOP OF SUBGRADE PRIOR TO PLACING GEOTEXTILE FABRIC. (SEE NOTE 6 BELOW) 1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECT DESIGNATION SS. 2. MC-3500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED 3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DE FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. 4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.	WALL STORMWATER COLLECTION CHAMBERS".	A 878.10 B 877.10 C 873.35	4640 TRUEMAN BLVD HILLIARD, OH 43026 1-800-733-7473 1-800-733-7473 S BEEN PREPARED BASED ON INFORMATION PIT THE SITE DESIGN ENGINER TO ENSURE TO	NOTES: 1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIF 2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STAN 3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RES CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. 4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WAI	TILE FABRIC. E 6 BELOW) FICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLL IDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATE ISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE	ED WALL STORMWATER COLLECTION CHAMBERS".	NORTH SYSTEM A 878.09 B 877.59 C 875.09 D 874.59	4640 TRUEMAN BLVD HILLIARD, OH 43026 1-800-733-7473 1s been prepared based on information	OF THE SITE DESIGN ENGINEER TO ENSURE T	EYOND ENGINEERIN
 FERMINETER STONE MOST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS. REQUIREMENTS FOR HANDLING AND INSTALLATION: TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS. TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3". TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 450 LBS ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PERCOLORS. 6. PLACE 40 MIL (HDPE) POND AND CANAL LINER OR EQUAL ON SUBGRADE EXTENDING THE ENTIRED 	RODUCED FROM REFLECTIVE GOLD OR YELLOW	D 872.60 LS ONE FOOT PRIOR TO PLACING GEOSYNTHETIC FABRIC.	SHEET 5 OF 11	REQUIREMENTS FOR HANDLING AND INSTALLATION: TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HE TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTAL YELLOW COLORS. PLACE 40 MIL (HDPE) POND AND CANAL LINER OR EQUAL ON SUBGRADE E	IGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2". THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 550 LATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHAL	L BE PRODUCED FROM REFLECTIVE GOLD OR	RIC.	SHEET 6 OF 11	PESPONSIBILITY O	CREATIVITY B
COVER PIPE CONNECTION TO END CAP WITH ADS GEOSYNTHETICS 801T NON-WOVEN GEOTEXTILE STORMTECH HIGHLY RECOMMENDS FLEXITORM INSERTS IN ANY UPSTREAM STRUCTURES WITH OPEN GRATES ELEVATED BYPASS MANIFOLD SITE DESIGN ENGINEER (24" [800 mm] MIN RECOMMENDED) 124" (800 mm) HIDPE ACCESS PIPE REQUIRED USE FACTORY PARTIAL CUT END CAP PART #: MC3500 ISOLATOR ROW PLUS DE NTS INSPECTION & MAINTENANCE	OPTIONAL INSP ONE LAYER OF FOUNDATION ST 8.25' (2.51 m) MII	MC-3500 END CAP ADSPLUS125 WOVEN GEOTEXTILE BETWEEN ONE AND CHAMBERS IN WIDE CONTINUOUS FABRIC WITHOUT SEAMS NYLOPLAST 8" LOCKING SOLID	NISSAN WAUKESHA, WI, USA DATE DRW CHK DESCRIPTION PROJECT #: CHECKED: N/A P	STORMTECH HIGHLY RECOMMENDS FLEXSTORM INSERTS IN ANY UPSTREAM STRUCTURES WITH OPEN GRATES ELEVATED BYPASS MANIFOLD SUMP DEPTH TBD BY SITE DESIGN ENGINEER (24" [600 mm] MIN RECOMMENDED)	INSTALL FLAMP ON 24" (600 mm) ACC PART#: SC74024RAMP SC-740 CHAMBER 24" (600 mm) HDPE ACCESS PIPE REQUIRED USE EZ END CAP PART #: SC740ECEZ SC-740 ISOLATOR ROW PLUS INTS	OPTIONAL INSPERIOR OF TOUR AND A SECONDATION S 5' (1.5 m) MIN W	ADSPLUS625 WOVEN GEOTEXTILE BETWEEN TONE AND CHAMBERS DE CONTINUOUS FABRIC WITHOUT SEAMS NYLOPLAST 8" LOCKING SOLID	NISSAN WAUKESHA, WI, USA DATE: DRW CHK DESCRIPTION PROJECT #: CHECKED: N/A NGINEER OR OTHER PROJECT REPRESENTATIVE. THE SITE DESIGN ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIL	NISSAN WAUKESHA TY OF WAUKESHA, WISCONSIN	ERGROUND STORAGE DETAILS
STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT A. INSPECTION PORTS (IF PRESENT) A. I. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN A. 2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED A. 3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG A. 4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL) A. 5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3. B. ALL ISOLATOR PLUS ROWS B. 1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS B. 2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE B. 3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3. STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS A. A. FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN C. VACUUM STRUCTURE SUMP AS REQUIRED STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS. STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM. NOTES 1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.	SPHALT OVERLAY FOR PRAFFIC APPLICATIONS CONCRETE COLLAR STORMTECH CHAMBER STORMTECH CHAMBER INSPECTION PORTS MAY BE CONNECTED THROUGH (MC SERIES ON NTS)	COVER AND FRAME CONCRETE COLLAR / ASPHALT OVERLAY NOT REQUIRED FOR GREENSPACE OR NON-TRAFFIC APPLICATIONS 8" NYLOPLAST UNIVERSAL DRAIN BODY (PART# 2708AG4IPKIT) OR TRAFFIC RATED BOX W/SOLID LOCKING COVER 4" (100 mm) SDR 35 PIPE 4" (100 mm) INSERTA TEE TO BE CENTERED ON CORRUGATION VALLE GH ANY CHAMBER CORRUGATION VALLEY.	Storm Chamber Chamber 888-892-286 888-892-286		OVE	MMIN THICKNESS OF ASPHALT RLAYAND CONCRETE COLLAR ASPHALT OVERLAY FOR TRAFFIC APPLICATIONS CONCRETE COLLAR STORMTECH CHAMBER NOTE: INSPECTION PORTS MAY BE CONNECTED THROUGH A PORT OF THE PROPERTY OF THE	COVER AND FRAME CONCRETE COLLAR / ASPHALT OVERLAY NOT REQUIRED FOR GREENSPACE OR NON-TRAFFIC APPLICATIONS 8" NYLOPLAST UNIVERSAL INLINE DRAIN BODY (PART# 2708AG4IPKIT) OR TRAFFIC RATED BOX W/SOLID LOCKING COVER 4" (100 mm) SDR 35 PIPE 4" (100 mm) INSERTA TEE TO BE CENTERED ON CORRUGATION CREST UGH ANY CHAMBER CORRUGATION CREST.	A 4640 TRUEMAN BLVD HILLIARD, OH 43026 1-800-733-7473 Chamber System Chamber System S88-892-2694 www.STORMTECH.CO R88-892-2694 www.STORMTECH.CO	SCALE: N.T.S JOB NO. 3220 STATE DESIGN ENGINEER TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS ASSOCIATED AND ALL ASSOCIATED DETAILS ASSOCIATED DETAILS ASSOCIATED AND ALL ASSOCIATED	25/2024 S.
			, 0, 11				R.A.SMITH, INC. ASSUMES NO RESPONSIBIL DAMAGES, LIABILITY OR COSTS RESULTING CHANGES OR ALTERATIONS MADE TO THIS THE EXPRESSED WRITTEN CONSENT OF R.A. ALL COPYRIGHTS TO THESE DRAWINGS ARE THEY MAY NOT BE COPIED, CHANGED, OR ANY THIRD PARTY IN ANY MANNER WITHOUTHE EXPRESSED WRITTEN PERMISSION OF RESULTING AND SERVICES OF THE EXPRESSED WRITTEN PERMISSION OF RESULTING AND MANNER WITHOUTHE EXPRESSED WRITTEN PERMISSION OF RESULTING AND MANNER WITHOUTHE EXPRESSED WRITTEN PERMISSION OF RESULTING AND MANNER WITHOUTHE EXPRESSED WRITTEN PERMISSION OF RESULTING AND MANNER WITHOUTHER WIT	ITY FOR FROM ALSMITH, INC. E RESERVED. ASSIGNED TO	PROJECT MAI RYAN J. LAN DESIGNED BY CHECKED BY:	ANAGER: ANCOUR, P.E. Y: CRR



<u>DIVISION 1 — GENERAL REQUIREMENTS</u>

01 41 00 - REGULATORY REQUIREMENTS

- . THE LATEST EDITIONS OF THE FOLLOWING DOCUMENTS AND ANY SUPPLEMENTS THERETO, SHALL GOVERN ALL
- CONSTRUCTION ITEMS ON THIS PLAN UNLESS OTHERWISE NOTED: a. WISCONSIN DEPARTMENT OF NATURAL RESOURCES (WDNR) STORM WATER TECHNICAL STANDARDS b. WISCONSIN EROSION CONTROL PRODUCT ACCEPTABILITY LIST
- c. STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN (SSSWCW) d. WISCONSIN ADMINISTRATIVE CODE. SECTIONS SPS 382-387
- e. WISCONSIN DEPARTMENT OF TRANSPORTATION (WISDOT) STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION
- f. FEDERAL HIGHWAY ADMINISTRATION MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)
- WISCONSIN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD) UNITED STATES DEPARTMENT OF JUSTICE ADA STANDARDS
- UNITED STATES DEPARTMENT OF TRANSPORTATION ADA STANDARDS FOR TRANSPORTATION FACILITIES MUNICIPALITY DEVELOPMENT STANDARDS
- COUNTY DEVELOPMENT STANDARDS
- 2. THE OWNER, ENGINEER AND MUNICIPALITY SHALL BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE OF PERFORMING ANY CONSTRUCTION ACTIVITIES.
- 3. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING COPIES OF ALL PERMITS AND FOR ABIDING BY ALL PERMIT REQUIREMENTS AND RESTRICTIONS. 4. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE, AND LOCAL
- SAFETY REQUIREMENTS TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT IS ALSO THE RESPONSIBILITY OF THE CONTRACTOR TO INITIATE, MAINTAIN, AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS, AND PROGRAMS IN CONNECTION
- 5. SHOP DRAWINGS AND/OR MANUFACTURER'S PRODUCT DATA SUBMITTALS ARE REQUIRED ONLY IF THE PRODUCT OR METHOD OF CONSTRUCTION IS DIFFERENT FROM THAT SPECIFIED OR IF REQUIRED BY THE MUNICIPAL
- a. ALL DOCUMENTS SUBMITTED FOR REVIEW SHALL HAVE THE SPECIFIC MATERIAL, PART, SIZE, ETC. HIGHLIGHTED IN SOME FASHION. EXAMPLE: A FITTING CUT SHEET HAS MULTIPLE PRESSURE RATING FOR DIFFERENT SIZE BENDS. HIGHLIGHT THE PRESSURE CLASS & SIZE TO BE USED ON PROJECT. ALL SUBMITTALS NOT PROPERLY IDENTIFYING THE SPECIFIC MATERIAL BEING USED WILL BE REJECTED
- b. CONTRACTOR SHALL SUBMIT A PDF COPY AND AN EXPLANATION AS TO HOW THE SUBSTITUTION MEETS THE PROPOSED DESIGN (PRODUCT SPECIFICATION SHEETS WITHOUT EXPLANATION WILL NOT BE ACCEPTED) TO THE OWNER'S REPRESENTATIVE OR ENGINEER FOR REVIEW AND APPROVAL. THE CONTRACTOR SHALL NOT PROCEED UNTIL THE OWNER'S APPROVAL IS GIVEN. IN PROJECT SCHEDULING CONTRACTOR SHALL ACCOUNT FOR 5 WORKING DAYS FOR SUBMITTAL REVIEW. IN THE EVENT SUCH SUBSTITUTION IS APPROVED. THE OWNER WILL REQUIRE FROM THE CONTRACTOR A CREDITED DEDUCTION FROM THE CONTRACT AMOUNT
- EQUAL TO ANY SAVINGS IN MATERIAL COST RESULTING FROM USE OF THE PROPOSED SUBSTITUTE. 6. THE CONTRACTOR SHALL ASSUME COMPLETE AND SOLE RESPONSIBILITY FOR THE QUALITY OF WORK. IF CHANGES OR ADJUSTMENTS ARE RECOMMENDED BY THE CONTRACTOR, THEY MAY BE MADE ONLY UPON WRITTEN
- APPROVAL OF THE OWNER OR HIS REPRESENTATIVE. a. ALL WORK SHALL BE DONE IN COMPLIANCE WITH THE CONTRACT DOCUMENTS. THE OWNER OR HIS REPRESENTATIVE SHALL DECIDE ALL QUESTIONS WHICH SHALL ARISE AS TO THE QUALITY AND ACCEPTABILITY OF MATERIALS FURNISHED, WORK PERFORMED, AND WORKMANSHIP, , INTERPRETATION OF THE PLANS AND SPECIFICATIONS HE SHALL DETERMINE THE AMOUNT OF WORK PERFORMED AND MATERIALS
- b. FAILURE OR NEGLIGENCE ON THE PART OF THE OWNER OR HIS REPRESENTATIVE TO CONDEMN OR REJECT SUBSTANDARD OR INFERIOR WORK OR MATERIALS SHALL NOT BE CONSTRUED TO IMPLY AN ACCEPTANCE OF SUCH WORK OR MATERIALS. IF IT BECOMES EVIDENT AT ANY TIME PRIOR TO THE FINAL ACCEPTANCE OF THE WORK BY THE OWNER. NEITHER SHALL IT BE CONSTRUED AS BARRING THE OWNER, AT ANY SUBSEQUENT TIME, FROM THE RECOVERY OF DAMAGES OR OF SUCH A SUM OF MONEY AS MAY BE NEEDED TO BUILD ANEW ALL PORTIONS OF THE SUBSTANDARD OR INFERIOR WORK OR REPLACEMENT OF IMPROPER MATERIALS WHEREVER FOUND.
- c. INSPECTORS EMPLOYED BY THE OWNER SHALL BE AUTHORIZED TO INSPECT ALL WORK DONE AND ALL MATERIAL FURNISHED. SUCH INSPECTION MAY EXTEND TO ALL OR ANY PART OF THE WORK AND TO THE PREPARATION, FABRICATION OR MANUFACTURE OF THE MATERIALS TO BE USED. THE INSPECTOR IS NOT AUTHORIZED TO REVOKE, ALTER OR WAIVE ANY REQUIREMENTS OF THE SPECIFICATIONS, NOR IS HE AUTHORIZED TO APPROVE OR ACCEPT ANY PORTION OF THE COMPLETED PROJECT. HE SHALL CALL THE ATTENTION OF THE CONTRACTOR TO ANY FAILURE OF THE WORK OR MATERIALS TO CONFORM TO THE SPECIFICATIONS AND CONTRACT, AND SHALL HAVE THE AUTHORITY TO REJECT MATERIALS. ANY DISPUTE BETWEEN THE INSPECTOR AND CONTRACTOR SHALL BE REFERRED TO THE OWNER OR HIS REPRESENTATIVE. ANY ADVICE WHICH THE INSPECTOR MAY GIVE THE CONTRACTOR SHALL IN NO WAY BE CONSTRUED AS BINDING THE ENGINEER IN ANY WAY OR RELEASING THE CONTRACTOR FROM FULFILLING ANY OF THE TERMS
- d. ALL MATERIALS AND EACH PART OF DETAIL OF THE WORK SHALL BE SUBJECT AT ALL TIMES TO INSPECTION BY THE OWNER OR HIS AUTHORIZED REPRESENTATIVE OR THE AUTHORITY HAVING JURISDICTION AND THE CONTRACTOR WILL BE HELD STRICTLY TO THE TRUE INTENT OF THE SPECIFICATIONS IN REGARD TO QUALITY OF MATERIALS, WORKMANSHIP, AND THE DILIGENT EXECUTION OF THE CONTRACT. SUCH INSPECTION MAY INCLUDE MILL. PLANT OR SHOP INSPECTION. AND ANY MATERIAL FURNISHED UNDER THESE SPECIFICATIONS IS SUBJECT TO SUCH INSPECTION. THE OWNER OR HIS REPRESENTATIVES SHALL BE ALLOWED ACCESS TO ALL PART OF THE WORK, AND SHALL BE FURNISHED WITH SUCH INFORMATION AND ASSISTANCE BY THE CONTRACTOR AS IS DETERMINED BY THE OWNER OR HIS REPRESENTATIVE, TO MAKE A COMPLETE AND DETAILED INSPECTION.
- ALL WORKMANSHIP SHALL CONFORM TO THE BEST STANDARD PRACTICE. UNLESS OTHERWISE SPECIFIED. THE SPECIFICATIONS OR RECOGNIZED ASSOCIATION OF MANUFACTURERS AND CONTRACTORS OR INDUSTRIAL MANUFACTURERS SHALL BE USED AS GUIDES FOR THE STANDARDS OF WORKMANSHIP.
- ALL EXPOSED ITEMS OF WORK SHALL PRESENT A NEAT WORKMANLIKE APPEARANCE AND SHALL BE AS TRUE TO SHAPE AND ALIGNMENT AS POSSIBLE TO OBTAIN WITH MEASURING OR LEVELING INSTRUMENTS GENERALLY USED IN THE RESPECTIVE TYPES OF WORK. ITEMS OF WORK SHALL BE SOUND AND FULLY PROTECTED AGAINST DAMAGE AND PREMATURE DETERIORATION. IT IS SPECIFICALLY UNDERSTOOD THAT IN ALL QUESTIONS OF QUALITY AND ACCEPTABILITY OF WORKMANSHIP, THE CONTRACTOR AGREES TO ABIDE BY THE DECISION OF THE OWNER OR HIS REPRESENTATIVE.
- a. ALL MATERIALS AND WORKMANSHIP NOT CONFORMING TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS SHALL BE CONSIDERED AS DEFECTIVE. AND ALL SUCH MATERIALS. WHETHER IN-PLACE OR NOT. SHALL BE REJECTED AND SHALL BE REMOVED FROM THE WORK BY THE CONTRACTOR AT HIS EXPENSE. UPON FAILURE ON THE PART OF THE CONTRACTOR TO COMPLY WITH ANY ORDER OF THE OWNER RELATIVE TO THE PROVISIONS OF THIS ARTICLE, THE OWNER SHALL HAVE THE AUTHORITY TO REMOVE AND REPLACE SUCH DEFECTIVE MATERIAL AND TO DEDUCT THE COST OF REMOVAL AND REPLACEMENT FROM ANY MONIES DUE OR WHICH MAY BECOME DUE THE CONTRACTOR. h. THE CONTRACTOR SHALL KEEP A LEGIBLE COPY OF THE PLANS, SPECIFICATIONS, AND ALL PERMITS AT THE
- SITE OF THE WORK AT ALL TIMES. AT THE COMPLETION OF THE WORK AND PRIOR TO FINAL PAYMENT, THE CONTRACTOR SHALL PROVIDE THE OWNER OR HIS REPRESENTATIVE WITH A MARKED-UP SET OF DRAWINGS SHOWING ALL CHANGES OR VARIATIONS FROM THE ORIGINAL DRAWINGS. THESE CHANGES SHALL BE MADE ON A SET OF FIFLD DRAWINGS AS THE WORK TAKES PLACE, AND NOT FROM MEMORY WHEN THE WORK IS DONE. THIS SET OF DRAWINGS SHOULD BE KEPT CLEAN IN A LOCATION AT THE SITE WHERE THE OWNER OR HIS REPRESENTATIVE MAY EXAMINE THEM.

THE MARKED-UP DRAWINGS SHALL BE ACCURATE. ARBITRARY MARKINGS ARE OF NO VALUE.

CAREFUL MEASUREMENTS SHALL BE MADE TO LOCATE UNDERGROUND EXTERIOR AND UNDERGROUND INTERIOR SEWERS, GAS LINES, WATER LINES, ELECTRICAL CONDUIT AND MISCELLANEOUS PIPING. 7. CONTRACTOR IS RESPONSIBLE FOR ALL TRAFFIC CONTROL, TRAFFIC CONTROL PLANS AND PERMITTING FOR ALL WORK TO BE COMPLETED ONSITE OR IN THE PUBLIC RIGHT-OF WAY.

01 70 00 - EXECUTION & CLOSEOUT REQUIREMENTS

THE CONTRACTOR IS RESPONSIBLE FOR EXAMINING ALL EXISTING SITE CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION AND SHALL COMPARE WITH THIS PLAN. 2. EXISTING UTILITY INFORMATION IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY, BASED ON BEST AVAILABLE

PUBLIC RECORDS, AS-BUILT DRAWINGS, AND FIELD OBSERVATIONS. NO RESPONSIBILITY IS ASSUMED BY THE

OWNER OR ENGINEER FOR ACCURACY OR COMPLETENESS. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR

- OWN DETERMINATION AS TO THE TYPE AND NATURE OF EXISTING UTILITIES, AS MAY BE NECESSARY TO AVOID DAMAGE THERETO 3. THE CONTRACTOR SHALL VERIFY ALL LOCATIONS, ELEVATIONS, AND SIZES OF EXISTING UTILITIES AND SHALL CHECK ALL PROPOSED UTILITY CONNECTIONS AND CROSSINGS PRIOR TO PROCEEDING WITH ANY WORK. ANY CONFLICTS SHALL BE REPORTED TO THE ENGINEER SO REDESIGN MAY OCCUR IF NEEDED. COST OF REPLACEMENT
- OR REPAIR OF EXISTING UTILITIES DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATIONS SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. 4. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING SOIL CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION. A GEOTECHNICAL REPORT MAY BE AVAILABLE FROM THE OWNER. THE CONTRACTOR SHALL ABIDE BY THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT AND SUBSEQUENT RECOMMENDATIONS OF THE GEOTECHNICAL
- ENGINEER DURING CONSTRUCTION THE CONTRACTOR SHALL FIELD VERIFY ELEVATIONS OF THE BENCHMARKS AND HORIZONTAL CONTROL BY REFERENCING SHOWN COORDINATES TO KNOWN PROPERTY LINES, AND SHALL NOTIFY THE ENGINEER OF DISCREPANCIES IN FITHER VERTICAL OR HORIZONTAL CONTROL PRIOR TO PROCEEDING WITH ANY WORK.
- G. SURVEY BENCHMARKS AND CONTROL POINTS SHALL BE MAINTAINED AND PROTECTED FROM DISTURBANCE PROPERTY CORNERS SHALL BE CAREFULLY PROTECTED AT ALL TIMES. PROPERTY MONUMENTS DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. 8. ANY ADJACENT PROPERTIES OR ROAD RIGHT-OF-WAYS WHICH ARE DAMAGED DURING CONSTRUCTION SHALL BE
- RESTORED BY THE CONTRACTOR. THE COST OF RESTORATION IS CONSIDERED INCIDENTAL AND SHALL BE 9. PUBLIC ROADS SHALL NOT BE FULLY CLOSED TO TRAFFIC AT ANY TIME. ALL INGRESS AND EGRESS TRAFFIC TO THE PROJECT SITE SHALL BE LIMITED TO THE CONSTRUCTION ENTRANCE.
- 10. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR DETERMINING QUANTITIES, SHALL BID ON THEIR OWN ESTIMATE OF THE WORK REQUIRED, AND SHALL NOT RELY ON THE ENGINEER'S ESTIMATE.
- 11. REQUESTS FOR CLARIFICATION WILL BE INTERPRETED BY THE OWNER/ENGINEER PRIOR TO AWARD OF CONTRACT. AND WHEN NECESSARY, OFFICIAL WRITTEN RESPONSES WILL BE ISSUED. OFFICIAL WRITTEN RESPONSES SHALL BE BINDING TO THE WORK. IN NO WAY SHALL VERBAL DIALOGUE CONSTITUTE OFFICIAL RESPONSE. 12. SHOULD ANY DISCREPANCIES BE DISCOVERED BY THE CONTRACTOR AFTER AWARD OF CONTRACT, NOTIFY
- OWNER/ENGINEER IN WRITING IMMEDIATELY. CONSTRUCTION OF ITEMS AFFECTED BY THE DISCREPANCIES SHALL NOT COMMENCE OR CONTINUE UNTIL AN OFFICIAL WRITTEN RESPONSE IS ISSUED.
- 13. ALL WORK SHALL BE GUARANTEED BY THE CONTRACTOR FOR A MINIMUM PERIOD OF 12 MONTHS FROM THE DATE OF FINAL ACCEPTANCE. THIS GUARANTEE SHALL INCLUDE ALL DEFECTS IN MATERIALS AND WORKMANSHIP. 14. THE CONTRACTOR SHALL INDEMNIFY THE OWNER, THE ENGINEER, AND THE MUNICIPALITY, THEIR AGENTS, ETC.,

FROM ALL LIABILITY INVOLVED WITH THE CONSTRUCTION, INSTALLATION, AND TESTING OF THE WORK ON THIS

DIVISION 31 - EARTHWORK

31 20 00 - EARTH MOVING

31 10 00 - SITE CLEARING & DEMOLITION

- 1. WORK SHALL CONSIST OF DEMOLITION, ABANDONMENT, AND REMOVAL OF EXISTING FOUNDATIONS, WALLS, SLABS, FENCES, PIPING, PAVEMENTS, AND OTHER MANMADE ITEMS INTERFERING WITH NEW CONSTRUCTION. WORK SHALL ALSO CONSIST OF CLEARING AND GRUBBING OF TREES, SHRUBS, VEGETATION, ROOTS, STUMPS, RUBBISH, AND OTHER PERISHABLE MATTER INTERFERING WITH NEW CONSTRUCTION.
- ALL ITEMS SHALL INCLUDE ALL NECESSARY MATERIALS AND LABOR TO COMPLETE THE ITEM IN PLACE. 3. CALL 811 TO NOTIFY UTILITY PROVIDERS AND REQUEST FIELD LOCATION OF EXISTING UTILITIES WITHIN PROJECT LIMITS PRIOR TO ANY CONSTRUCTION RELATED ACTIVITIES. 4. INSTALL PERIMETER FENCING AS INDICATED PRIOR TO COMMENCING ANY CONSTRUCTION RELATED ACTIVITY.
- 5. CLEARLY IDENTIFY ALL VEGETATION TO BE PRESERVED AND/OR RELOCATED PRIOR TO CLEARING AND GRUBBING. 5. PROTECT EXISTING IMPROVEMENTS TO REMAIN DURING CONSTRUCTION. ANY DAMAGED IMPROVEMENTS SHALL BE RESTORED TO ORIGINAL CONDITION, OR AS OTHERWISE ACCEPTABLE TO THE OWNER. 7. REMOVE EXISTING ABOVE-GRADE AND BELOW-GRADE IMPROVEMENTS AS INDICATED AND AS NECESSARY TO
- CONSTRUCT PROPOSED IMPROVEMENTS. 8. SAWCUT ALL PAVEMENT TO BE REMOVED IN STRAIGHT LINES TO FULL DEPTH. 9. DEMOLISH CONCRETE AND MASONRY IN SMALL SECTIONS. BREAK UP CONCRETE SLABS THAT ARE 2 FEET OR MORE
- BELOW PROPOSED SUBGRADE TO PERMIT DRAINAGE. 10. DISCONNECT AND SEAL/CAP EXISTING UTILITIES TO BE REMOVED, RELOCATED, OR ABANDONED IN ACCORDANCE WITH REQUIREMENTS OF UTILITY PROVIDERS.
- 11. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING OWNERSHIP OF AND COORDINATING NECESSARY REMOVAL AND/OR RELOCATION OF ALL EXISTING UTILITIES WITHIN THE PROJECT LIMITS. 12. DO NOT INTERRUPT UTILITY SERVICE TO EXISTING FACILITIES UNLESS PERMITTED BY THE OWNER.
- 13. VOIDS LEFT BY REMOVALS SHALL BE LEVELED TO PREVENT PONDING OF WATER. 14. REMOVE AND LEGALLY DISPOSE OF DEMOLISHED MATERIALS, TRASH, AND DEBRIS FROM THE PROJECT SITE. RUBBISH, TRASH, GARBAGE, AND LITTER SHALL BE PLACED IN SEALED CONTAINERS THROUGHOUT CONSTRUCTION.
- 1. WORK SHALL CONSIST OF STRIPPING AND STORAGE OF TOPSOIL, EXCAVATION, EMBANKMENT, IMPORTING OR EXPORTING MATERIAL TO ACHIEVE LAND BALANCE, COMPACTION, FINISH GRADING, SUBGRADE PREPARATION, AND
- 2. ALL ITEMS SHALL INCLUDE ALL NECESSARY MATERIALS AND LABOR TO COMPLETE THE ITEM IN PLACE. ALL EARTHWORK SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT AND SUBSEQUENT RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER DURING CONSTRUCTION BASED ON FIELD CONDITIONS, AND THESE REQUIREMENTS. THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER SHALL GOVERN.
- EXCAVATE TO SUBGRADE REGARDLESS OF THE CHARACTER OF SURFACE AND SUBSURFACE CONDITIONS ENCOUNTERED, EXCAVATED MATERIAL MAY INCLUDE ROCK AND UNCLASSIFIED OBSTRUCTIONS. WHICH IS CONSIDERED INCIDENTAL AND SHALL BE INCLUDED IN THE WORK.
- 5. EXISTING FOUNDATIONS, BUILDING REMNANTS, AND UNSATISFACTORY MATERIAL SHALL BE COMPLETELY REMOVED FROM WITHIN AND A MINIMUM OF 10 FEET BEYOND BUILDING PAD AREAS. ANY RELATED EXCAVATION SHALL BE BACKFILLED WITH COMPACTED ENGINEERED FILL MATERIAL. 6. EXISTING FOUNDATIONS. BUILDING REMNANTS. AND UNSATISFACTORY MATERIAL SHALL BE REMOVED TO A MINIMUM
- OF 2 FEET BELOW PROPOSED SUBGRADE WITHIN GREENSPACE AND PAVEMENT AREAS. ANY RELATED EXCAVATION SHALL BE BACKFILLED WITH COMPACTED ENGINEERED FILL MATERIAL. AREAS SHALL BE GRADED TO WITHIN 1 INCH, MORE OR LESS, OF PROPOSED SUBGRADE. DEVIATIONS SHALL NOT BE CONSISTENT IN ONE DIRECTION.
- 8. DISKING, HARROWING, AND AERATION TECHNIQUES SHALL BE USED TO DRY SUBGRADE PRIOR TO PROOF ROLLING 9. IN THE PRESENCE OF THE GEOTECHNICAL ENGINEER, PROOF ROLL SUBGRADE BELOW BUILDING PAD AND PAVEMENT AREAS DURING DRY WEATHER WITH A FULLY LOADED TANDEM AXLE DUMP TRUCK WHERE COHESIVE SOILS ARE PREDOMINANT, AND WITH A SMOOTH DRUMMED VIBRATORY ROLLER WHERE GRANULAR SOILS ARE PREDOMINANT. SUBGRADE WHICH IS OBSERVED TO RUT OR DEFLECT EXCESSIVELY SHALL BE UNDERCUT IN ACCORDANCE WITH
- RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER. DO NOT PROOF ROLL WET OR SATURATED SUBGRADE. 10. THE CONTRACTOR SHALL MAINTAIN POSITIVE SITE DRAINAGE THROUGHOUT CONSTRUCTION. THIS MAY INCLUDE EXCAVATION OF TEMPORARY DITCHES OR PUMPING TO ALLEVIATE WATER PONDING. SURFACE WATER AND GROUNDWATER SHALL BE PREVENTED FROM ENTERING EXCAVATIONS, PONDING ON PREPARED SUBGRADES, AND FLOODING PROJECT SITE AND/OR SURROUNDING AREAS.
- 11. THE CONTRACTOR SHALL ASSUME SOLE RESPONSIBILITY FOR ALL EARTHWORK COMPUTATIONS AND FOR ACTUAL LAND BALANCE, INCLUDING UTILITY TRENCH SPOIL. THE CONTRACTOR SHALL IMPORT OR EXPORT MATERIAL AS NECESSARY TO COMPLETE THE PROJECT.
- 12. TOPSOIL REPLACEMENT DEPTH SHALL BE AS CALLED OUT ON THE CIVIL OR LANDSCAPE PLANS, OR A MINIMUM OF FOUR INCHES IF NOT CALLED OUT ON LANDSCAPE PLAN.

31 25 00 - EROSION & SEDIMENTATION CONTROLS

- 1. WORK SHALL CONSIST OF INSTALLATION OF TEMPORARY AND PERMANENT PRACTICES FOR SEDIMENTATION CONTROL, EROSION CONTROL, SLOPE PROTECTION, AND REMOVAL OF PRACTICES UPON FINAL SITE STABILIZATION. ALL ITEMS SHALL INCLUDE ALL NECESSARY MATERIALS AND LABOR TO COMPLETE THE ITEM IN PLACE.
- INSTALLATION AND MAINTENANCE OF PRACTICES SHALL BE IN ACCORDANCE WITH THE APPLICABLE WIDNR TECHNICAL STANDARD, OR THE WISCONSIN CONSTRUCTION SITE BEST MANAGEMENT PRACTICE HANDBOOK IF A TECHNICAL
- STANDARD IS NOT AVAILABLE. ALL PRACTICES SHALL BE INSTALLED PRIOR TO COMMENCING ANY LAND DISTURBING CONSTRUCTION RELATED ACTIVITY. EARTHWORK ASSOCIATED WITH INSTALLATION OF PRACTICES MAY OCCUR CONCURRENTLY. 5. ALL PRACTICES SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT AND WARRANTY PERIOD IN
- CONFORMANCE WITH PERMIT REQUIREMENTS ALL PRACTICES SHALL BE ROUTINELY INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL GREATER THAN 0.5 INCHES. THE CONTRACTOR IS REQUIRED TO PERFORM INSPECTIONS, KEEP A LOG, AND CONDUCT REPAIRS ALL DISTURBED AREAS SHALL DRAIN TO A CONTROL PRACTICE AT ALL TIMES DURING CONSTRUCTION UNTIL FINAL
- STABILIZATION IS ACHIEVED. DEPENDING UPON HOW THE CONTRACTOR GRADES THE SITE, IT MAY BE NECESSARY TO INSTALL ADDITIONAL CONTROL PRACTICES IN VARIOUS LOCATIONS THROUGHOUT THE PROJECT SITE. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL CONTROL PRACTICES NECESSARY TO PREVENT EROSION AND SEDIMENTATION. 8. ALL DISTURBED GROUND LEFT INACTIVE FOR 7 DAYS SHALL BE STABILIZED WITH A TEMPORARY SEED MIXTURE AND
- MULCH. THE TEMPORARY SEED MIXTURE SHALL BE IN ACCORDANCE WITH SECTION 630 OF WISDOT STANDARD SPECIFICATIONS. WINTER WHEAT OR RYE SHALL BE USED FOR TEMPORARY SEED AFTER SEPTEMBER 1. 9. DISTURBED AREAS THAT CAN NOT BE STABILIZED WITH A DENSE GROWTH OF VEGETATION DUE TO TEMPERATURE OR TIMING OF CONSTRUCTION SHALL BE STABILIZED BY APPLYING ANIONIC POLYACRYLAMIDE (PAM). 10. ALL ACTIVITIES ON THE PROJECT SITE SHALL BE CONDUCTED IN A LOGICAL SEQUENCE TO MINIMIZE THE AREA OF
- BARE SOIL EXPOSED AT ANY ONE TIME 11. DUST GENERATED BY CONSTRUCTION RELATED ACTIVITIES SHALL BE MINIMIZED BY USE OF WATERING, CALCIUM CHLORIDE SURFACE TREATMENT, CONSTRUCTION SCHEDULING, OR OTHER APPROPRIATE MEASURES.
- 12. THE CONTRACTOR SHALL BE PREPARED FOR DEWATERING CONDITIONS BY HAVING APPROPRIATE PUMPS AND FILTER BAGS ONSITE. ALL WATER FROM CONSTRUCTION DEWATERING SHALL BE TREATED PRIOR TO DISCHARGE FROM THE PROJECT SITE. 13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE CLEANLINESS OF THE PROJECT SITE AND PUBLIC ROADS DURING CONSTRUCTION. PUBLIC ROADS SHALL BE KEPT FREE OF SEDIMENT TRACKED FROM AREAS UNDER
- CONSTRUCTION BY DAILY SWEEPING OR OTHER APPROPRIATE MEASURES. 14. FINAL STABILIZATION OF LANDSCAPED AREAS SHALL BE IN ACCORDANCE WITH THE APPROVED LANDSCAPE PLAN. 15. ALL SEEDED AREAS SHALL BE FERTILIZED, RESEEDED AS NECESSARY, AND MULCHED IN ACCORDANCE WITH THE APPROVED LANDSCAPE PLAN TO MAINTAIN A VIGOROUS DENSE VEGETATIVE COVER.

DIVISION 32 - EXTERIOR IMPROVEMENTS

32 12 00 - ASPHALT PAVING

- 1. WORK SHALL CONSIST OF FINE GRADING SUBGRADE, EXCAVATION BELOW SUBGRADE (IF NECESSARY), PLACEMENT OF CRUSHED STONE BASE, INSTALLATION OF HOT-MIX ASPHALT, PAVEMENT MARKING, SIGNAGE, AND CLEANUP. 2. ALL ITEMS SHALL INCLUDE ALL NECESSARY MATERIALS AND LABOR TO COMPLETE THE ITEM IN PLACE. CRUSHED STONE BASE SHALL BE IN ACCORDANCE WITH SECTION 305 OF WISDOT STANDARD SPECIFICATIONS.
- ASPHALTIC MATERIALS SHALL BE IN ACCORDANCE WITH SECTION 455 OF WISDOT STANDARD SPECIFICATIONS. AGGREGATE SHALL BE IN ACCORDANCE WITH SECTION 460 OF WISDOT STANDARD SPECIFICATIONS. 6. DO NOT CONDUCT ASPHALT PAVING IF ANY OF THE FOLLOWING CONDITIONS EXIST: CRUSHED STONE BASE IS WET OR EXCESSIVELY DAMP: TEMPERATURE IS BELOW 30 DEGREES FAHRENHEIT AT TIME OF BINDER COURSE INSTALLATION; TEMPERATURE HAS BEEN BELOW 35 DEGREES FAHRENHEIT WITHIN 12 HOURS PRIOR TO TACK COAT
- APPLICATION; TEMPERATURE IS BELOW 40 DEGREES FAHRENHEIT AT TIME OF SURFACE COURSE INSTALLATION. 7. COMPACT ASPHALT IN ACCORDANCE WITH SECTION 450 OF WISDOT STANDARD SPECIFICATIONS. COMPACT ASPHALT TO PRODUCE THE THICKNESS INDICATED WITHIN PLUS/MINUS 1/4-INCH FOR BINDER COURSE, AND WITHIN PLUS 1/4-INCH FOR SURFACE COURSE (NO MINUS). 8. APPLY TACK COAT BETWEEN ASPHALT COURSES AT A MINIMUM RATE OF 0.25 GAL/SY.
- 9. NO TRAFFIC SHALL BE ALLOWED ON ASPHALT AFTER FINAL ROLLING UNTIL IT HAS COOLED AND HARDENED. 10. FINAL ASPHALT SURFACE SHALL BE WITHIN A 1/8-INCH TOLERANCE AS DETERMINED BY USING A 10-FOOT STRAIGHTEDGE APPLIED LONGITUDINALLY OR TRANSVERSELY. REMOVE AND REPLACE ALL RAISED AND DEPRESSED AREAS EXCEEDING TOLERANCE.
- 11. A SLOPE NO GREATER THAN 2% IN ALL DIRECTIONS AT ADA PARKING STALLS AND ADJACENT UNLOADING AREAS IS REQUIRED. NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO COMMENCING WORK. 12. A SLOPE NO GREATER THAN 5% ALONG THE LENGTH OF THE ACCESSIBLE ROUTE IS REQUIRED. A SLOPE NO GREATER THAN 2% ACROSS THE WIDTH OF THE ACCESSIBLE ROUTE IS REQUIRED. NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO COMMENCING WORK.

32 13 00 - CONCRETE PAVING

- 1. WORK SHALL CONSIST OF FINE GRADING SUBGRADE, EXCAVATION BELOW SUBGRADE (IF NECESSARY), PLACEMENT OF CRUSHED STONE BASE, INSTALLATION OF CONCRETE, AND CLEANUP. 2. ALL ITEMS SHALL INCLUDE ALL NECESSARY MATERIALS AND LABOR TO COMPLETE THE ITEM IN PLACE. CRUSHED STONE BASE SHALL BE IN ACCORDANCE WITH SECTION 305 OF WISDOT STANDARD SPECIFICATIONS.
- AGGREGATE SHALL BE IN ACCORDANCE WITH SECTION 501 OF WISDOT STANDARD SPECIFICATIONS. 6. WATER SHALL BE IN ACCORDANCE WITH SECTION 501 OF WISDOT STANDARD SPECIFICATIONS AND ASTM C94 / 7. AIR—ENTRAINING SHALL BE IN ACCORDANCE WITH SECTION 501 OF WISDOT STANDARD SPECIFICATIONS AND ASTM

CONCRETE SHALL BE GRADE A AIR-ENTRAINED IN ACCORDANCE WITH SECTION 501 OF WISDOT STANDARD

SPECIFICATIONS. WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4.000 PSI

- 8. LIQUID CURING COMPOUND SHALL BE IN ACCORDANCE WITH SECTION 415 OF WISDOT STANDARD SPECIFICATIONS AND AASHTO M 148. 9. CURBING SHALL BE IN ACCORDANCE WITH SECTION 601 OF WISDOT STANDARD SPECIFICATIONS. 10. SIDEWALK AND PATIO SHALL BE IN ACCORDANCE WITH SECTION 602 OF WISDOT STANDARD SPECIFICATIONS.
- 11. CONCRETE FORMS SHALL REMAIN IN PLACE AT LEAST 24 HOURS AFTER CONCRETE INSTALLATION AND SHALL BE CLEANED AFTER EACH USE. CONCRETE FORMS SHALL BE COATED WITH RELEASE AGENT TO ALLOW SEPARATION WITHOUT DAMAGE TO CONCRETE. 12. CONSTRUCTION AND CONTRACTION JOINTS SHALL BE IN ACCORDANCE WITH SECTION 415 OF WISDOT STANDARD
- SPECIFICATIONS. JOINT PATTERN SHALL FOLLOW ARCHITECTURAL PLANS IF AVAILABLE. 13. ISOLATION JOINTS SHALL CONSIST OF PREFORMED JOINT FILLER STRIPS ABUTTING CURBING, INLETS, CATCH BASINS, MANHOLES, STRUCTURES, AND OTHER FIXED OBJECTS.

DIVISION 32 - EXTERIOR IMPROVEMENTS

- 14. EDGES OF CONCRETE PAVEMENT, CURBING, SIDEWALK, PATIOS, AND JOINTS SHALL BE TOOLED IN CONCRETE AFTER INITIAL FLOATING WITH AN EDGING TOOL TO A 1/4-INCH RADIUS. REPEAT TOOLING AFTER APPLYING SURFACE FINISHES AND ELIMINATE TOOL MARKS ON SURFACES.
- 15. FINISH, CURE, AND PROTECT CURBING IN ACCORDANCE WITH SECTION 601 OF WISDOT STANDARD SPECIFICATIONS. 16. FINISH (LIGHT BROOM), CURE, AND PROTECT SIDEWALK AND PATIOS IN ACCORDANCE WITH SECTION 602 OF WISDOT STANDARD SPECIFICATIONS.
- 17. FINISH (ARTIFICIAL TURF DRAG), CURE, AND PROTECT VEHICULAR PAVEMENT AND PADS IN ACCORDANCE WITH SECTION 415 OF WISDOT STANDARD SPECIFICATIONS. 18. MAINTAIN CONCRETE FREE OF STAINS, DISCOLORATION, DIRT, AND OTHER FOREIGN MATERIAL. SWEEP CONCRETE
- PRIOR TO SUBSTANTIAL COMPLETION INSPECTION. 19. MAXIMUM DIFFERENCE BETWEEN CONCRETE SIDEWALKS AND ADJACENT PAVEMENT SURFACES SHALL NOT EXCEED 1/4-INCH VERTICAL 20. A SLOPE NO GREATER THAN 2% IN ALL DIRECTIONS AT ADA PARKING STALLS AND ADJACENT UNLOADING AREAS IS
- REQUIRED. NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO COMMENCING WORK. 21. A SLOPE NO GREATER THAN 5% ALONG THE LENGTH OF THE ACCESSIBLE ROUTE IS REQUIRED. A SLOPE NO GREATER THAN 2% ACROSS THE WIDTH OF THE ACCESSIBLE ROUTE IS REQUIRED. NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO COMMENCING WORK.
- 22. ALL HANDICAP ACCESSIBLE DOORWAYS REQUIRE AN EXTERIOR LANDING THAT IS A MINIMUM OF 5 FEET BY 5 FEET WITH A SLOPE NO GREATER THAN 2% IN ALL DIRECTIONS. NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO COMMENCING WORK
- 23. REMOVE AND REPLACE CONCRETE THAT IS BROKEN, DAMAGED, DEFECTIVE, OR DOES NOT COMPLY WITH THE REQUIREMENTS LISTED ABOVE.

32 17 00 - PAVEMENT MARKING & SIGNAGE

- 1. WORK SHALL CONSIST OF INSTALLATION OF PARKING LOT STRIPING, DIRECTION ARROWS, HANDICAP ACCESSIBLE SYMBOLS AND SITE SIGNAGE.
- ALL ITEMS SHALL INCLUDE ALL NECESSARY MATERIALS AND LABOR TO COMPLETE THE ITEM IN PLACE. PAVEMENT MARKING PAINT SHALL BE IN ACCORDANCE WITH SECTION 646 OF WISDOT STANDARD SPECIFICATIONS AND WISDOT APPROVED PRODUCTS LIST. COLOR SHALL BE WHITE UNLESS NOTED OTHERWISE ON THIS PLAN. MARKINGS SEPARATING OPPOSING TRAFFIC SHALL BE YELLOW.
- 4. ALL PARKING LOT STRIPING SHALL BE 4-INCH WIDTH UNLESS NOTED OTHERWISE ON THIS PLAN. 5. BARRICADE WORK AREA DURING INSTALLATION AND UNTIL PAVEMENT MARKING PAINT IS DRIED. PROTECT ADJACENT AREAS FROM RECEIVING PAINT
- 6. APPLY PAINT IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS TO PRODUCE MARKINGS AS INDICATED WITH UNIFORM, STRAIGHT EDGES. TEMPLATES SHALL BE PROFESSIONALLY MADE TO INDUSTRY STANDARDS. APPLY PAINT TO CLEAN AND DRY SURFACE. FREE FROM FROST. TO ENSURE PROPER BONDING.
- 8. NOTIFY OWNER OF ANY UNSOUND CONDITIONS PRIOR TO COMMENCING WORK. APPLYING PAVEMENT MARKING PAINT CONSTITUTES CONTRACTOR'S ACCEPTANCE OF SURFACE AS SUITABLE FOR INSTALLATION.

32 32 00 - RETAINING WALLS

- WORK SHALL CONSIST OF FURNISHING DETAILED DESIGN. MATERIALS, LABOR, EQUIPMENT, SUPERVISION, AND DIRECTION TO CONSTRUCT RETAINING WALL SYSTEMS IN REASONABLY CLOSE CONFORMITY TO THE LINES, GRADES, AND DIMENSIONS SHOWN ON THIS PLAN. RETAINING WALLS SHOWN ON THIS PLAN ARE FOR GENERAL LOCATION AND MATERIAL REFERENCE ONLY.
- ALL ITEMS SHALL INCLUDE ALL NECESSARY MATERIALS AND LABOR TO COMPLETE THE ITEM IN PLACE. THE CONTRACTOR SHALL PROCURE DETAILED DESIGN CALCULATIONS AND DRAWNGS, PREPARED AND SEALED BY A PROFESSIONAL ENGINEER EXPERIENCED WITH RETAINING WALL DESIGN AND LICENSED IN THE STATE IN WHICH THE
- RETAINING WALLS ARE TO BE CONSTRUCTED. 4. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL SURROUNDING STRUCTURES AND UTILITIES ARE
- PROTECTED FROM THE EFFECTS OF EXCAVATION AND PROVIDING ANY NECESSARY EXCAVATION SUPPORT. 5. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT CONSTRUCTION ADJACENT TO THE RETAINING WALLS DOES NOT DISTURB OR PLACE TEMPORARY LOADS ON THE RETAINING WALLS THAT EXCEED DESIGN LOADS.

DIVISION 33 — UTILITIES

33 10 00 - WATER DISTRIBUTION

- WORK SHALL CONSIST OF INSTALLATION AND TESTING OF THE WATER DISTRIBUTION SYSTEM AND ALL APPURTENANCES. 2. ALL ITEMS SHALL INCLUDE ALL NECESSARY MATERIALS AND LABOR TO COMPLETE THE ITEM IN PLACE. 3. ALL PUBLIC WATER DISTRIBUTION WORK SHALL BE IN ACCORDANCE WITH SSSWCW AND MUNICIPALITY DEVELOPMENT STANDARDS.
- 4. ALL PRIVATE WATER DISTRIBUTION WORK SHALL BE IN ACCORDANCE WITH WISCONSIN ADMINISTRATIVE CODE AND MUNICIPALITY DEVELOPMENT STANDARDS. 5. POLYVINYL CHLORIDE (PVC) PIPE SHALL BE SDR 18, CLASS 150 CONFORMING TO AWWA C900 WITH INTEGRAL
- ELASTOMERIC BELL AND SPIGOT JOINTS IN ACCORDANCE WITH SECTION 8.20.0 OF SSSWCW. 6. DUCTILE IRON PIPE (DIP) SHALL BE CLASS 150 CONFORMING TO AWWA C151 WITH RUBBER GASKETED JOINTS IN ACCORDANCE WITH SECTION 8.18.0 OF SSSWCW. 7. POLYETHYLENE TUBING SHALL BE SDR 9 IN ACCORDANCE WITH SECTION 8.24.0 OF SSSWCW AND CONFORM TO AWWA
- 8. COPPER TUBING SHALL BE TYPE "K" IN ACCORDANCE WITH SECTION 8.24.0 OF SSSWCW AND CONFORM TO ASTM B88. 9. BALL VALVES SHALL BE IN ACCORDANCE WITH SECTION 8.30.0 OF SSSWCW AND CONFORM TO AWWA C800 AND ASTM
- 10. GATE VALVES SHALL BE IN ACCORDANCE WITH SECTION 8.27.0 OF SSSWCW AND CONFORM TO AWWA C500. 11. BUTTERFLY VALVES SHALL BE IN ACCORDANCE WITH SECTION 8.28.0 OF SSSWCW AND CONFORM TO AWWA C504. 12. VALVE BOXES SHALL BE IN ACCORDANCE WITH SECTION 8.29.0 OF SSSWCW AND CONFORM TO ASTM A48. VALV BOXES SHALL BE SIZE DD. SCREW TYPE. 3 PIECE ASSEMBLY, WITH COVERS MARKED "WATER". ALL VALVE BOXES
- SHALL BE SET TO PROPOSED GRADE TRULY VERTICAL AND SUPPORTED BY USE OF ADAPTOR. 13. HYDRANTS SHALL BE IN ACCORDANCE WITH SECTION 8.26.0 OF SSSWCW AND CONFORM TO AWWA C502. PUMPER NOZZLE SHALL BE PERPENDICULAR TO AND ORIENTED TOWARDS THE PAVEMENT. HYDRANTS SHALL BE ATTACHED BY
- MEANS OF TEE AND HAVE A GROUND LINE TO CENTER DISTANCE OF 18 TO 21 INCHES. 14. FITTINGS SHALL BE CLASS 150 IN ACCORDANCE WITH SECTION 8.22.0 OF SSSWCW, CONFORMING TO AWWA C110, AND PROVIDED WITH MECHANICAL JOINTS. 15. MECHANICAL JOINTS SHALL BE MADE WITH "COR TEN" NUTS AND BOLTS, OR CORROSION—RESISTANT EQUIVALENTS
- CONFORMING TO AWWA C111. 16. POLYETHYLENE WRAP SHALL BE IN ACCORDANCE WITH SECTION 8.21.0 OF SSSWCW AND PROVIDED FOR ALL METAL PIPES AND FITTINGS.
- 17. THRUST RESTRAINT SHALL BE IN ACCORDANCE WITH SECTION 4.3.13 OF SSSWCW AND PROVIDED FOR ALL BENDS, CAPS. PLUGS. AND TEES. 18. TRENCH SECTION SHALL BE IN ACCORDANCE WITH FILE NO. 36 OF SSSWCW. MAXIMUM ALLOWABLE TRENCH WIDTH
- SHALL BE OUTSIDE DIAMETER OF PIPE PLUS 20 INCHES. 19. PIPE BEDDING AND COVER MATERIAL SHALL BE IN ACCORDANCE WITH SECTION 8.43.0 OF SSSWCW. MINIMUM COVER OVER PIPE SHALL BE 12 INCHES. 20. TRENCH BACKFILL MATERIAL SHALL BE MECHANICALLY COMPACTED GRANULAR BACKFILL IN ACCORDANCE WITH SECTION 8.43.4 OF SSSWCW BENEATH AND WITHIN 5 FEET OF PAVEMENT AREAS, AND SHALL BE SPOIL BACKFILL IN
- ACCORDANCE WITH SECTION 8.43.5 OF SSSWCW BENEATH GREENSPACE AREAS. UNLESS ALTERNATIVE COMPACTION IS RECOMMENDED IN THE GEOTECHNICAL REPORT OR BY THE GEOTECHNICAL ENGINEER DURING CONSTRUCTION, IN WHICH CASE THE CONTRACTOR IS TO FOLLOW THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER. 21. CAUTION MUST BE FOLLOWED REGARDING THE COMPACTION OF ALL UTILITY TRENCHES. FLOODING OF BACKFILL MATERIAL IS NOT ALLOWED. 22. TRACER WIRE SHALL BE BLUE AND INSTALLED IN ACCORDANCE WITH SECTION 2.11.2 OF SSSWCW ON ALL BURIED NON-METALLIC PUBLIC WATER MAIN PIPE, PRIVATE WATER MAIN PIPE, AND BUILDING WATER SERVICE PIPE. TRACER
- WIRE SHALL BE INSULATED. SINGLE-CONDUCTOR. 12 GAUGE SOLID COPPER OR COPPER COATED STEEL WIRE, SECURED AT LEAST EVERY 10 FEET AND AT ALL BENDS. WITH ACCESS POINTS AT LEAST EVERY 300 FEET 23. PROPOSED WATER SERVICES SHOWN ON THIS PLAN SHALL TERMINATE AT A POINT FIVE (5) FEET FROM THE EXTERIOR BUILDING WALL.
- 24. THE CONTRACTOR IS RESPONSIBLE FOR THE SIZE, TYPE AND NUMBER OF BENDS REQUIRED TO COMPLETE CONSTRUCTION, WHICH SHALL BE INCIDENTAL AND INCLUDED IN THE COST OF WORK. 25. THE CONTRACTOR SHALL ADJUST ALL VALVE BOXES TO FINISHED SURFACE UPON COMPLETION OF PAVING OPERATIONS. 26. THE CONTRACTOR IS RESPONSIBLE FOR PRESSURE TESTING AND SAFE WATER SAMPLING. HYDROSTATIC TESTING SHALL BE IN ACCORDANCE WITH SECTION 4.15.0 OF SSSWCW. DISINFECTION SHALL BE IN ACCORDANCE WITH SECTION 4.16.0 OF SSSWCW AND CONFORM TO AWWA C651. WATER MAINS SHALL BE FLUSHED AND TESTED IN THE PRESENCE OF THE

33 30 00 - SANITARY SEWERAGE

WATER UTILITY OPERATOR.

UNLESS NOTED OTHERWISE.

- 1. WORK SHALL CONSIST OF INSTALLATION AND TESTING OF THE SANITARY SEWERAGE SYSTEM AND ALL APPURTENANCES.
- 2. ALL ITEMS SHALL INCLUDE ALL NECESSARY MATERIALS AND LABOR TO COMPLETE THE ITEM IN PLACE. 3. ALL PUBLIC SANITARY SEWERAGE WORK SHALL BE IN ACCORDANCE WITH SSSWCW AND MUNICIPALITY DEVELOPMENT 4. ALL PRIVATE SANITARY SEWERAGE WORK SHALL BE IN ACCORDANCE WITH WISCONSIN ADMINISTRATIVE CODE AND
- MUNICIPALITY DEVELOPMENT STANDARDS. 5. POLYVINYL CHLORIDE (PVC) PIPE AND FITTINGS SHALL BE SDR 35 CONFORMING TO ASTM D3034 FOR DEPTHS LESS THAN 18 FEET, AND SHALL BE SDR 18 CONFORMING TO AWWA C900 FOR DEPTHS GREATER THAN 18 FEET, BOTH WITH PUSH-ON RUBBER GASKETED JOINTS IN ACCORDANCE WITH SECTIONS 8.10.6 AND 8.41.4 OF SSSWCW.
- 6. MANHOLES SHALL BE PRECAST REINFORCED CONCRETE IN ACCORDANCE WITH SECTION 8.39.0 OF SSSWCW AND CONFORM TO ASTM C478. SIZES SHALL BE AS INDICATED AND VERIFIED BY THE CONTRACTOR PRIOR TO ORDERING. 7. TRENCH SECTION SHALL BE CLASS B IN ACCORDANCE WITH SECTION 3.2.6 OF SSSWCW. MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE OUTSIDE DIAMETER OF PIPE PLUS 20 INCHES.
- 8. PIPE BEDDING AND COVER MATERIAL SHALL BE IN ACCORDANCE WITH SECTION 8.43.0 OF SSSWCW. MINIMUM COVER OVER PIPE SHALL BE 12 INCHES. 9. TRENCH BACKFILL MATERIAL SHALL BE MECHANICALLY COMPACTED GRANULAR BACKFILL IN ACCORDANCE WITH SECTION 8.43.4 OF SSSWCW BENEATH AND WITHIN 5 FEET OF PAVEMENT AREAS, AND SHALL BE SPOIL BACKFILL IN ACCORDANCE WITH SECTION 8.43.5 OF SSSWCW BENEATH GREENSPACE AREAS, UNLESS ALTERNATIVE COMPACTION IS RECOMMENDED IN THE GEOTECHNICAL REPORT OR BY THE GEOTECHNICAL ENGINEER DURING CONSTRUCTION, IN WHICH CASE THE CONTRACTOR IS TO FOLLOW THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER.
- 10. CAUTION MUST BE FOLLOWED REGARDING THE COMPACTION OF ALL UTILITY TRENCHES. FLOODING OF BACKFILL MATERIAL IS NOT ALLOWED. 11. ALL CONNECTIONS TO EXISTING SANITARY SEWER PIPES AND STRUCTURES SHALL BE CORED CONNECTIONS, UNLESS NOTED OTHERWISE. PREFABRICATED WYE CONNECTIONS ARE REQUIRED FOR ALL BUILDING SANITARY SERVICE PIPES,
- 12. CLEANOUTS AND RISER EXTENSIONS SHALL BE INSTALLED IN ACCORDANCE WITH SPS 382.35 FROM SEWER PIPES TO GROUND SURFACE. LIGHT DUTY LOADING CLASSIFICATION SHALL BE USED IN UNPAVED AREAS. MEDIUM DUTY LOADING CLASSIFICATION SHALL BE USED IN PAVED FOOT TRAFFIC AREAS. HEAVY DUTY LOADING CLASSIFICATION SHALL BE USED IN PAYED VEHICULAR TRAFFIC AREAS, FRAMES AND COVERS SHALL BE SET FLUSH WITH SURFACE. 13. TRACER WIRE SHALL BE GREEN AND INSTALLED IN ACCORDANCE WITH SECTION 2.11.2 OF SSSWCW ON ALL BURIED NON-METALLIC PUBLIC SANITARY SEWER PIPE, PRIVATE SANITARY INTERCEPTOR PIPE, AND BUILDING SANITARY

SERVICE PIPE. TRACER WIRE SHALL BE INSULATED, SINGLE-CONDUCTOR, 12 GAUGE SOLID COPPER OR COPPER COATED

STEEL WIRE, SECURED AT LEAST EVERY 10 FEET AND AT ALL BENDS, WITH ACCESS POINTS AT LEAST EVERY 300

DIVISION 33 - UTILITIES

- 13. TRACER WIRE SHALL BE GREEN AND INSTALLED IN ACCORDANCE WITH SECTION 2.11.2 OF SSSWCW ON ALL BURIED NON-METALLIC PUBLIC SANITARY SEWER PIPE, PRIVATE SANITARY INTERCEPTOR PIPE, AND BUILDING SANITARY SERVICE PIPE. TRACER WIRE SHALL BE INSULATED, SINGLE—CONDUCTOR, 12 GAUGE SOLID COPPER OR COPPER COATED STEEL WIRE, SECURED AT LEAST EVERY 10 FEET AND AT ALL BENDS, WITH ACCESS POINTS AT LEAST
- 14. PROPOSED SANITARY SERVICES SHOWN ON THIS PLAN SHALL TERMINATE AT A POINT FIVE (5) FEET FROM THE **EXTERIOR BUILDING WALL**
- 15. THE CONTRACTOR SHALL ADJUST ALL MANHOLE RIMS TO FINISHED SURFACE UPON COMPLETION OF PAVING OPERATIONS. 16. AFTER INSTALLATION OF SANITARY SEWERAGE SYSTEM, CLEAN ALL DEBRIS FROM SYSTEM AND INSPECT FOR DAMAGE. CONDUCT TESTING OF INSTALLED PIPE IN ACCORDANCE WITH SSSWCW. REPAIR ANY DAMAGE AND REPLACE ANY PIPE NOT PASSING TESTING.

33 40 00 - STORMWATER DRAINAGE

PROFESSIONAL SERVICES PLUMBING PRODUCTS REGISTER.

MATERIAL IS NOT ALLOWED.

DAMAGE. REPAIR ANY DAMAGE.

- WORK SHALL CONSIST OF INSTALLATION AND TESTING OF THE STORMWATER DRAINAGE SYSTEM AND ALL APPURTENANCES.
- ALL ITEMS SHALL INCLUDE ALL NECESSARY MATERIALS AND LABOR TO COMPLETE THE ITEM IN PLACE. ALL PUBLIC STORMWATER DRAINAGE WORK SHALL BE IN ACCORDANCE WITH SSSWCW AND MUNICIPALITY DEVELOPMENT STANDARDS. 4. ALL PRIVATE STORMWATER DRAINAGE WORK SHALL BE IN ACCORDANCE WITH WISCONSIN ADMINISTRATIVE CODE AND
- MUNICIPALITY DEVELOPMENT STANDARDS. 5. REINFORCED CONCRETE PIPE (RCP) AND END SECTIONS SHALL BE IN ACCORDANCE WITH SECTION 8.6.0 OF SSSWCW AND CONFORM TO ASTM C76 WITH RUBBER GASKETED JOINTS CONFORMING TO ASTM C443. UNLESS NOTED OTHERWISE, 12-INCH DIAMETER PIPE SHALL BE CLASS V, 15-INCH DIAMETER PIPE SHALL BE CLASS IV,
- AND 18-INCH DIAMETER PIPE AND LARGER SHALL BE CLASS III. 6. CORRUGATED METAL PIPE (CMP) AND END SECTIONS SHALL BE 16 GAUGE CONFORMING TO ASTM A760. 7. HIGH-DENSITY POLYETHYLENE (HDPE) PIPE AND FITTINGS SHALL BE ADS N12 WT AS APPROVED BY THE WISCONSIN DEPARTMENT OF SAFETY AND PROFÉSSIONAL SERVICES PLUMBING PRODUCTS REGISTER.
- 8. POLYVINYL CHLORIDE (PVC) PIPE AND FITTINGS SHALL BE SDR 35 CONFORMING TO ASTM D3034 WITH PUSH-ON RUBBER GASKETED JOINTS CONFORMING TO ASTM D3212. 9. MANHOLES SHALL BE PRECAST REINFORCED CONCRETE IN ACCORDANCE WITH SECTION 8.39.0 OF SSSWCW AND
- CONFORM TO ASTM C478. SIZES SHALL BE AS INDICATED AND VERIFIED BY THE CONTRACTOR PRIOR TO ORDERING. 10. CATCH BASINS SHALL BE PRECAST REINFORCED CONCRETE IN ACCORDANCE WITH SECTION 3.6.0 OF SSSWCW AND CONFORM TO ASTM C478. SIZES SHALL BE AS INDICATED AND VERIFIED BY THE CONTRACTOR PRIOR TO ORDERING.
- 11. INLETS SHALL BE PRECAST REINFORCED CONCRETE IN ACCORDANCE WITH SECTION 3.6.0 OF SSSWCW AND CONFORM TO ASTM C913. SIZES SHALL BE AS INDICATED AND VERIFIED BY THE CONTRACTOR PRIOR TO ORDERING. 12. AREA DRAINS SHALL BE ADS NYLOPLAST AS APPROVED BY THE WISCONSIN DEPARTMENT OF SAFETY AND
- 13. FRAMES AND GRATES SHALL BE AS INDICATED. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING FRAMES AND GRATES ARE COMPATIBLE WITH PRECAST STRUCTURES PRIOR TO ORDERING. 14. TRENCH SECTION SHALL BE CLASS B IN ACCORDANCE WITH SECTION 3.2.6 OF SSSWCW. MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE OUTSIDE DIAMETER OF PIPE PLUS 20 INCHES.
- 15. PIPE BEDDING AND COVER MATERIAL SHALL BE IN ACCORDANCE WITH SECTION 8.43.0 OF SSSWCW. MINIMUM COVER OVER PIPE SHALL BE 12 INCHES. 16. TRENCH BACKFILL MATERIAL SHALL BE MECHANICALLY COMPACTED GRANULAR BACKFILL IN ACCORDANCE WITH SECTION 8.43.4 OF SSSWCW BENEATH AND WITHIN 5 FEET OF PAVEMENT AREAS, AND SHALL BE SPOIL BACKFILL IN ACCORDANCE WITH SECTION 8.43.5 OF SSSWCW BENEATH GREENSPACE AREAS, UNLESS ALTERNATIVE
- COMPACTION IS RECOMMENDED IN THE GEOTECHNICAL REPORT OR BY THE GEOTECHNICAL ENGINEER DURING CONSTRUCTION, IN WHICH CASE THE CONTRACTOR IS TO FOLLOW THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER. 17. CAUTION MUST BE FOLLOWED REGARDING THE COMPACTION OF ALL UTILITY TRENCHES. FLOODING OF BACKFILL
- 18. ALL CONNECTIONS TO EXISTING STORM SEWER PIPES AND STRUCTURES SHALL BE CORED CONNECTIONS, UNLESS NOTED OTHERWISE. 19. FLEXIBLE COMPRESSION COUPLINGS SHALL BE USED IN THE CONNECTION OF DISSIMILAR PIPE MATERIALS. 20. CLEANOUTS AND RISER EXTENSIONS SHALL BE INSTALLED IN ACCORDANCE WITH SPS 382.35 FROM SEWER PIPES TO GROUND SURFACE. LIGHT DUTY LOADING CLASSIFICATION SHALL BE USED IN UNPAVED AREAS. MEDIUM DUTY LOADING CLASSIFICATION SHALL BE USED IN PAVED FOOT TRAFFIC AREAS. HEAVY DUTY LOADING CLASSIFICATION SHALL BE USED IN PAVED VEHICULAR TRAFFIC AREAS. FRAMES AND COVERS SHALL BE SET FLUSH WITH SURFACE. 21. TRACER WIRE SHALL BE BROWN AND INSTALLED IN ACCORDANCE WITH SECTION 2.11.1 OF SSSWCW ON ALL BURIED

NON-METALLIC PUBLIC STORM SEWER PIPE, PRIVATE STORM INTERCEPTOR PIPE, AND BUILDING STORM SERVICE

- PIPE. TRACER WIRE SHALL BE INSULATED, SINGLE-CONDUCTOR, 12 GAUGE SOLID COPPER OR COPPER COATED STEEL WIRE, SECURED AT LEAST EVERY 10 FEET AND AT ALL BENDS, WITH ACCESS POINTS AT LEAST EVERY 300 22. FIELD TILE ENCOUNTERED DURING CONSTRUCTION SHALL BE CONNECTED TO THE STORMWATER DRAINAGE SYSTEM. IF THIS CANNOT BE ACCOMPLISHED, THEN IT SHALL BE REPAIRED WITH NEW PIPE OF SIMILAR SIZE AND MATERIAL.
- DOCUMENTATION OF SUCH FIELD TILE SHALL BE PROVIDED TO THE OWNER. 23. PROPOSED STORM SERVICES SHOWN ON THIS PLAN SHALL TERMINATE AT A POINT FIVE (5) FEET FROM THE EXTERIOR BUILDING WALL. CONNECTIONS TO DOWNSPOUTS SHALL BE PER DETAILS ON THE BUILDING PLUMBING PLANS. THE EXACT LOCATION OF DOWNSPOUTS SHALL BE PER THE ARCHITECTURAL PLANS.
- 24. THE CONTRACTOR SHALL ADJUST ALL MANHOLE RIMS AND INLETS TO FINISHED SURFACE UPON COMPLETION OF PAVING OPFRATIONS 25. AFTER INSTALLATION OF STORMWATER DRAINAGE SYSTEM, CLEAN ALL DEBRIS FROM SYSTEM AND INSPECT FOR

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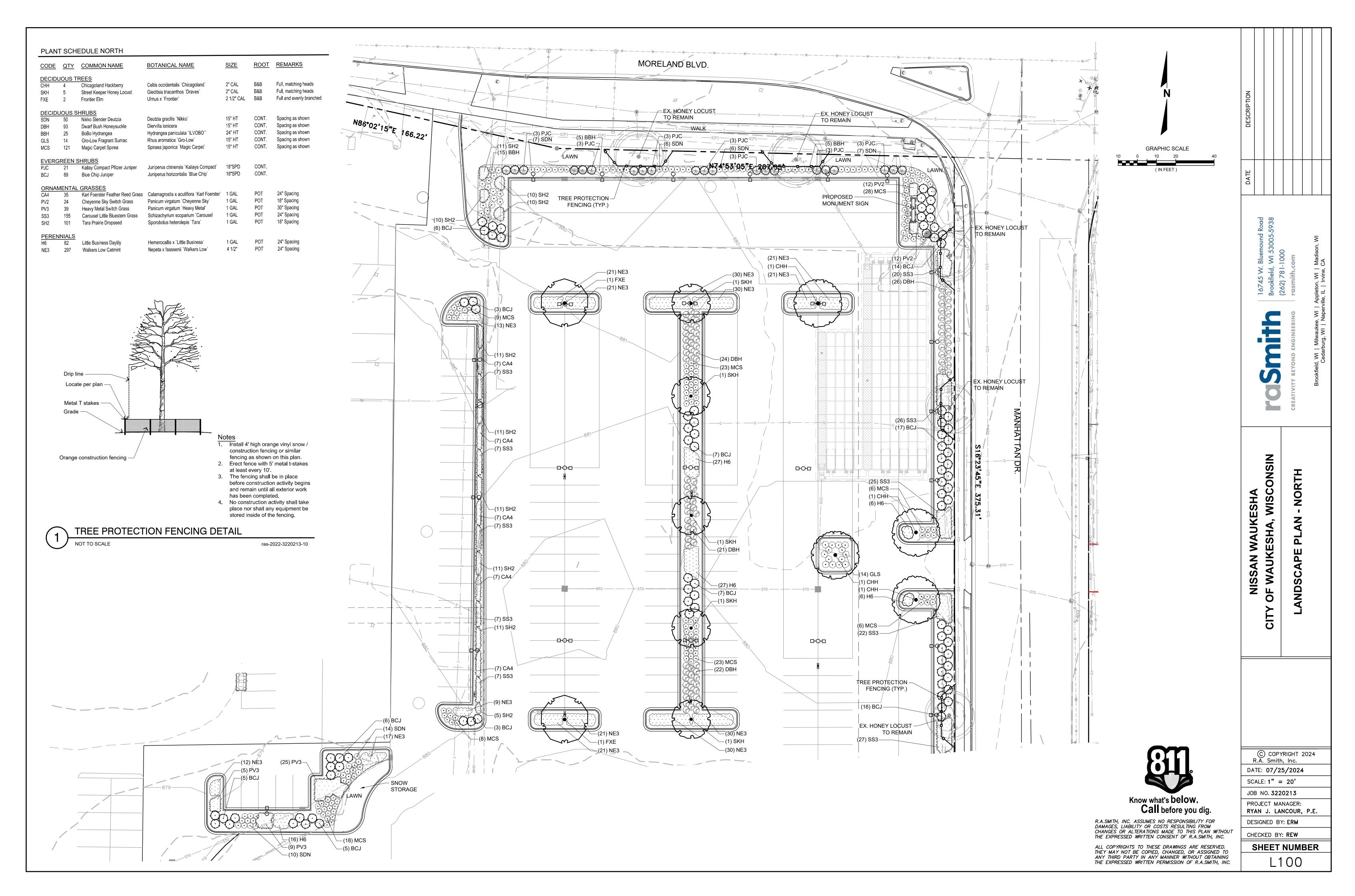
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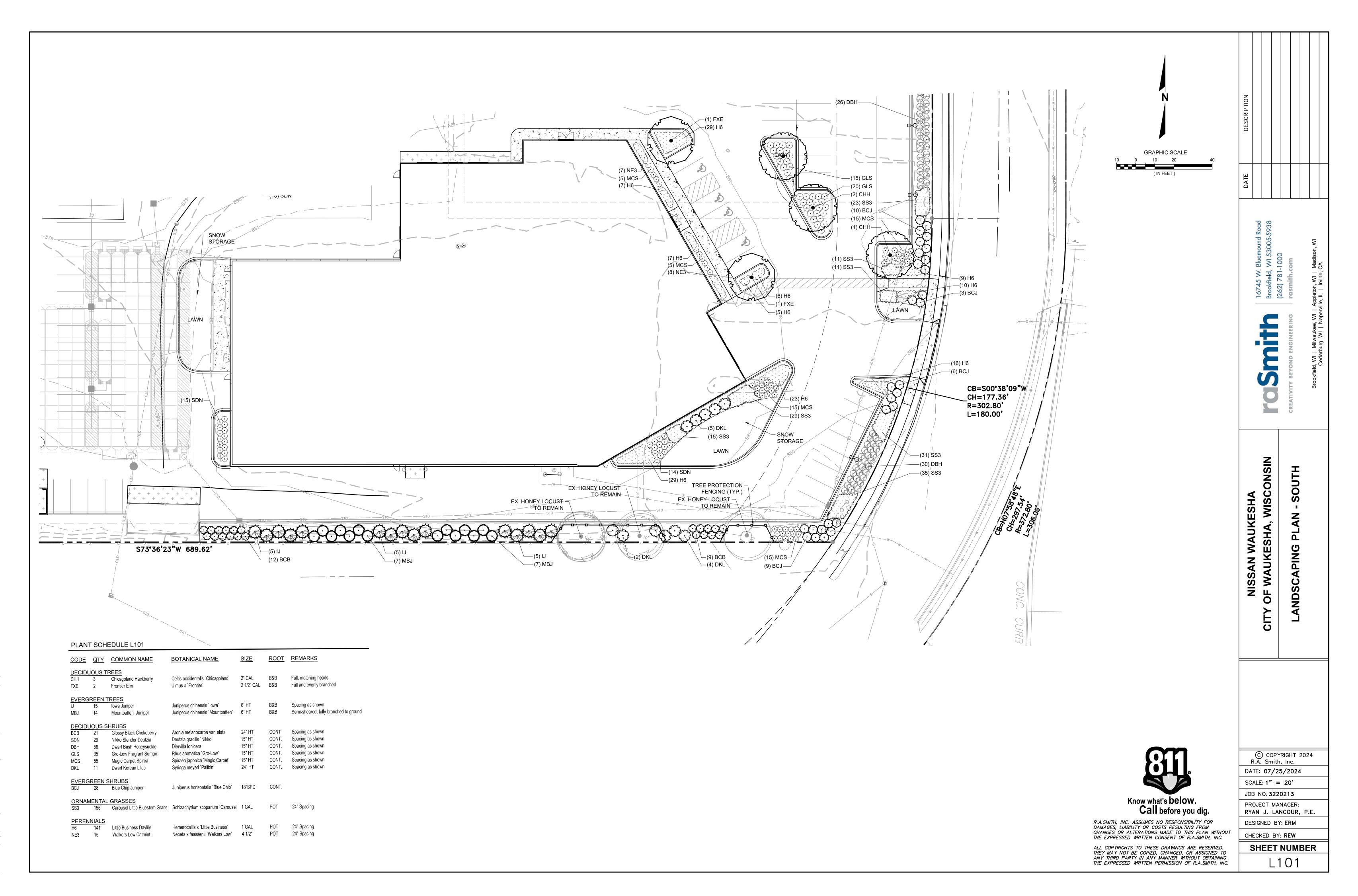
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