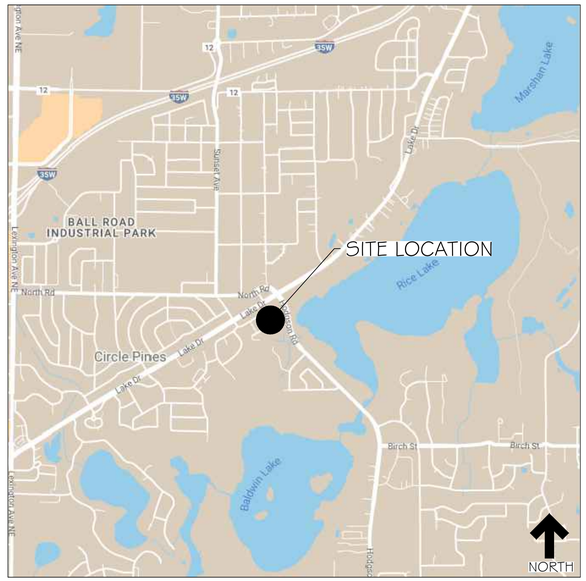
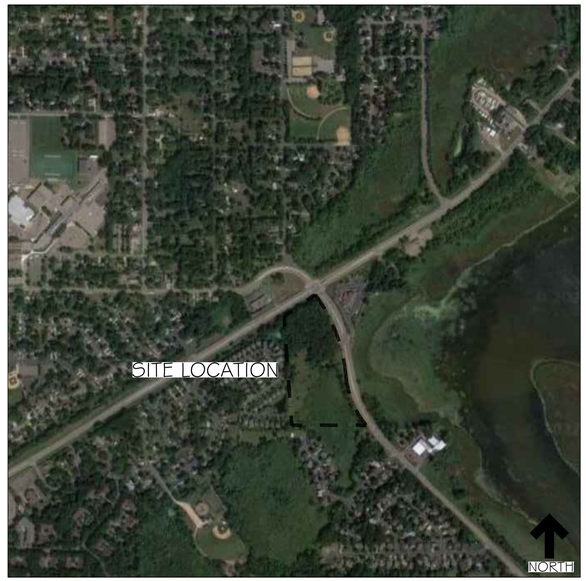
SITE IMPROVEMENT PLANS FOR:

KWIK TRIP #1266
LINO LAKES, MN

SITE LOCATION MAP:



SITE AERIAL MAP:



APPROVED FOR COUNTY TURN LANE ITEMS ONLY

ANOKA COUNTY ENGINEER _____ DATE _____

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OWNER:
KWIK TRIP INC.
1626 OAK STREET
LA CROSSE, WI 54602
JESSICA VINSON
608-791-7647
JVinson@kwiktrip.com

SITE PLANNER:
INSITES SITE PLANNING
3131 FERNBROOK LN N, SUITE 260
PLYMOUTH, MN 55447
BOB MUELLER
763-383-8400
Bob@InsitesInc.net

CIVIL ENGINEER:
SUNDE ENGINEERING
10830 NESBITT AVE SOUTH
BLOOMINGTON, MN 55437
952-881-3344

ARCHITECT:
VANTAGE ARCHITECTS
750 3RD ST N, SUITE F
LA CROSSE, WI 54601
608-784-2729

SURVEYOR:
E.G.RUD & SONS
6776 LAKE DR. NE
SUITE 110
LINO LAKES, MN 55014

KWIK TRIP

KWIK STAR

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

TITLE SHEET

CONVENIENCE STORE 1266

-- LINO LAKES, MINNESOTA

NO.	DATE	DESCRIPTION
-	22APR25	INTERNAL REVIEW
-	22MAY05	SUBMITTAL
-	22MAY20	ROW WAYSITE SHIFT
-	22JUN27	CITY COMMENTS
-	05AUG22	RCWD COMMENTS
-	13SEP22	BID SET/CITY COMMENTS
-	15SEP22	BID SET
-	16NOV22	CITY COMMENTS
-	11JAN23	CITY COMMENTS
-	31JAN23	CITY COMMENTS
-	09FEB23	ANOKA COUNTY COMMENTS
-	13FEB23	CONSTRUCTION

DRAWN BY

SCALE GRAPHIC

PROJ. NO. 22-1266

DATE 04-25-22

SHEET T1

INSITES 22-009 PM J.V.

ALTA/NSPS LAND TITLE SURVEY

~for~ KWIK TRIP, INC.
~of~ KWIK TRIP STORE 1266

BENCHMARK:

MNDOT GSID STATION #92433
MNDOT NAME: OTTER MNDT RESET
ELEVATION: 941.08 (NAVD 88)

TREE TAG TABLE

Tag	DBH/Height	Condition	Species
201	9	5	Red Oak
202	9	5	Red Oak
203	10	5	Red Oak
204	7	5	Red Oak
205	13	5	Red Oak
206	17	5	Red Oak
207	24	5	Red Oak
208	12	5	Red Oak
209	11	5	Red Oak
210	13	4	Red Oak
211	12	5	Red Oak
212	15	4	Red Oak
213	7	5	Red Oak
214	7	5	Red Oak
215	16	5	Bur Oak
216	15	4	Red Oak
217	13	5	Red Oak
217	13	5	Red Oak
218	17	5	Red Oak
219	14	5	Bur Oak
220	12	5	Red Oak
221	7	5	Red Oak
222	7	3	Red Oak
223	8	4	Red Oak
224	15	3	Red Oak
225	7	4	Red Oak
226	8	5	Red Oak
227	7	5	Red Oak
228	19	5	Red Oak
229	12	5	Red Oak
230	7	5	Red Oak
231	10	5	Red Oak
232	6	5	Bur Oak
233	6	5	Black Cherry
234	16	5	Red Oak
235	8	3	Red Oak
236	6	5	Black Cherry
237	8	5	Red Oak
238	22	5	Red Oak
239	8	5	Red Oak
240	7	5	Red Oak
241	7	5	Red Oak
242	6	4	Box Elder
243	7	5	Green Ash
244	6	5	Hackberry
245	21	5	Bur Oak
246	10	5	Red Oak
247	11	5	Red Oak
248	21	5	Red Oak
249	11	3	Bur Oak
250	10	4	Bur Oak
251	19	5	Bur Oak
252	15	5	Red Oak
253	6	3	Black Cherry
254	8	3	Red Oak
255	7	5	Red Oak
256	6	5	Red Oak
257	22	4	Bur Oak
258	10	5	Red Oak
259	11	5	Red Oak
260	10	5	Red Oak
261	15	5	Red Oak
262	23	4	Bur Oak
263	8	5	Red Oak
264	7	5	Red Oak
265	10	4	Red Oak
266	9	5	Red Oak
267	8	5	Red Oak
268	6	5	Red Oak
269	10	5	Bur Oak
270	14	5	Red Oak
271	9	5	Red Oak
272	8	5	Red Oak
273	7	5	Red Oak
274	8	5	Red Oak
275	10	4	Red Oak
276	8	4	Red Oak
277	6	5	Box Elder
278	7	5	Siberian Elm
279	8	5	Siberian Elm
280	7	4	Siberian Elm
281	8	5	Red Oak
282	9	4	Red Oak
283	7	4	Siberian Elm
284	10	4	Siberian Elm
285	7	4	Siberian Elm
286	7	5	Red Oak
287	7	5	Red Oak
288	7	5	Red Oak
289	8	5	Red Oak
290	12	5	Red Oak
291	13	4	Red Oak
292	6	5	Bur Oak
293	7	5	Red Oak
294	7	5	Red Oak
295	23	4	Red Oak
296	6	4	Black Cherry
297	12	5	Red Oak
298	7	5	Red Oak
299	6	5	Red Oak
300	23	4	Red Oak
301	7	5	Red Oak
302	12	5	Red Oak
303	23	5	Red Oak
304	17	5	Red Oak
305	9	5	Red Oak
306	6	3	Red Oak
307	18	5	Bur Oak
308	15	5	Red Oak
309	7	4	Black Cherry
310	7	4	Bur Oak
311	6	4	Bur Oak
312	14	4	Red Oak
313	15	5	Bur Oak
314	14	4	Bur Oak
315	15	4	Bur Oak
316	7	5	American Elm
317	13	5	Red Oak
318	8	5	Red Oak
319	14	5	Red Oak
320	14	6	Red Oak
321	19	5	Red Oak
322	12	5	Bur Oak
323	12	5	Bur Oak
324	23	4	Red Oak
325	10	5	Red Oak
326	7	3	Black Cherry
327	7	3	Black Cherry
328	7	4	American Elm
329	6	4	Hackberry
330	9	5	Red Oak
331	6	3	Black Cherry
332	7	5	Black Cherry
333	8	4	Black Cherry
334	9	4	Black Cherry
335	6	3	Black Cherry
336	7	3	Bur Oak
337	6	2	Black Cherry
338	13	6	Red Oak
339	6	4	Red Oak
340	16	4	Red Oak
341	14	6	Red Oak
342	6	3	Black Cherry
343	12	5	Black Cherry
344	9	5	Red Oak
346	6	5	Red Oak
347	6	5	Green Ash
348	10	5	Red Oak
349	10	5	Red Oak
350	11	5	Red Oak
351	13	5	Red Oak
352	12	5	Red Oak
353	17	5	Red Oak
354	15	6	Red Oak
357	16	6	Red Oak
358	7	5	White Oak
359	10	4	Red Oak
360	12	5	Red Oak
363	16	6	Red Oak
364	7	5	Red Oak
365	10	5	Red Oak
366	11	5	Red Oak
367	12	4	Bur Oak
368	20	4	Red Oak
369	10	4	Red Oak
370	11	5	Red Oak
373	10	5	Red Oak
373	10	5	Red Oak
374	8	2	Red Oak
375	10	4	Red Oak
376	10	5	Red Oak
377	13	4	Red Oak
378	14	4	Red Oak
379	11	5	Black Cherry
380	10	5	Red Oak
381	11	5	Red Oak
382	9	4	Red Oak
383	10	5	Red Oak
384	8	3	Red Oak
385	18	6	Bur Oak
386	7	5	Quaking Aspen
387	6	5	Red Oak
388	7	5	Bur Oak
389	13	7	Bur Oak
391	6	5	Red Oak
392	7	5	Red Oak
393	7	4	Red Oak
393	6	5	Red Oak
394	14	8	Bur Oak
395	6	5	Red Oak
396	13	4	Bur Oak
397	12	5	Bur Oak
398	14	6	Red Oak
399	7	5	Red Oak
400	8	4	Red Oak
401	7	5	Red Oak
402	7	6	Red Oak
403	6	5	Red Oak
404	11	4	Bur Oak
405	6	4	Hackberry
406	18	6	Bur Oak
407	6	3	Black Cherry
408	6	5	Red Oak
409	6	5	Red Oak
410	8	5	Red Oak
411	7	5	Red Oak
412	10	6	Red Oak
413	11	5	Red Oak
414	10	5	Red Oak
415	14	6	Bur Oak
416	6	3	Black Cherry
417	7	4	Black Cherry
418	20	3	Bur Oak
419	7	4	Red Oak
420	9	5	Red Oak
421	10	5	Red Oak
422	12	4	Box Elder
423	7	4	Red Oak
424	10	5	Red Oak
425	10	5	Red Oak
426	6	3	Black Cherry
427	11	5	Red Oak
428	15	4	Red Oak
429	10	5	Red Oak
430	12	5	Red Oak
431	12	5	Bur Oak
433	6	5	Red Oak
433	7	3	Black Cherry
434	9	3	Black Cherry
435	14	5	Red Oak
436	9	5	Bur Oak
437	14	4	Red Oak
438	16	5	Red Oak
439	8	4	Bur Oak
440	10	4	Bur Oak
441	17	5	Red Oak
442	6	5	Bur Oak
443	7	4	Bur Oak
444	6	6	Red Oak
445	8	4	Box Elder
446	7	4	Black Cherry
447	22	5	Red Oak
448	6	5	Black Cherry
449	12	5	Red Oak
450	10	5	Red Oak
451	23	7	Red Oak
452	7	5	Black Cherry
453	8	5	Black Cherry
454	16	6	Red Oak
455	10	5	Red Oak
456	9	5	Red Oak
457	8	5	Red Oak
458	8	5	Red Oak
459	8	5	Red Oak
460	9	5	Red Oak
461 12"		5	Red Cedar
462	8	5	Green Ash
463	7	6	Red Oak
464	11	5	Red Oak
465	7	5	Red Oak
466	13	5	Red Oak
467	15	4	Red Oak
468	6	4	Black Cherry
469	15	5	Red Oak
470	7	5	Red Oak
192	7	5	Quaking Aspen
193	6	4	White Oak
194	7	5	Red Oak
195	10	5	Red Oak
198	16	4	Red Oak
199	12	5	Red Oak
200	7	5	Bur Oak
301	7	5	Red Oak
302	10	3	Black Cherry
303	23	5	Red Oak
304	17	5	Red Oak
305	9	5	Red Oak
306	6	3	Red Oak
307	18	5	Bur Oak
308	15	5	Red Oak
309	7	4	Black Cherry
310	7	4	Bur Oak
311	6	4	Bur Oak
312	14	4	Red Oak
313	15	5	Bur Oak
314	14	4	Bur Oak
315	15	4	Bur Oak
316	7	5	American Elm
317	13	5	Red Oak
318	8	5	Red Oak
319	14	5	Red Oak
320	14	6	Red Oak
321	19	5	Red Oak
322	12	5	Bur Oak
323	12	5	Bur Oak
324	23	4	Red Oak
325	10	5	Red Oak
326	7	3	Black Cherry
327	7	3	Black Cherry
328	7	4	American Elm
329	6	4	Hackberry
330	9	5	Red Oak
331	6	3	Black Cherry
332	7	5	Black Cherry
333	8	4	Black Cherry
334	9	4	Black Cherry
335	6	3	Black Cherry
336	7	3	Bur Oak
337	6	2	Black Cherry
338	13	6	Red Oak
339	6	4	Red Oak
340	16	4	Red Oak
341	14	6	Red Oak
342	6	3	Black Cherry
343	12	5	Black Cherry
344	9	5	Red Oak
346	6	5	Red Oak
347	6	5	Green Ash
348	10	5	Red Oak
349	10	5	Red Oak
350	11	5	Red Oak
351	13	5	Red Oak
352	12	5	Red Oak
353	17	5	Red Oak
354	15	6	Red Oak
357	16	6	Red Oak
358	7	5	White Oak
359	10	4	Red Oak
360	12	5	Red Oak
363	16	6	Red Oak
364	7	5	Red Oak
365	10	5	Red Oak
366	11	5	Red Oak
367	12	4	Bur Oak
368	20	4	Red Oak
369	10	4	Red Oak
370	11	5	Red Oak
373	10	5	Red Oak
373	10	5	Red Oak
374	8	2	Red Oak
375	10	4	Red Oak
376	10	5	Red Oak
377	13	4	Red Oak
378	14	4	Red Oak
379	11	5	Black Cherry
380	10	5	Red Oak
381	11	5	Red Oak
382	9	4	Red Oak
383	10	5	Red Oak
384	8	3	Red Oak
385	18	6	Bur Oak
386	7	5	Quaking Aspen
387	6	5	Red Oak
388	7	5	Bur Oak
389	13	7	Bur Oak
391	6	5	Red Oak
392	7	5	Red Oak
393	7	4	Red Oak
393	6	5	Red Oak
394	14	8	Bur Oak
395	6	5	Red Oak
396	13	4	Bur Oak
397	12	5	Bur Oak
398	14	6	Red Oak
399	7	5	Red Oak
400	8	4	Red Oak
401	7	5	Red Oak
402	7	6	Red Oak
403	6	5	Red Oak
404	11	4	Bur Oak
405	6	4	Hackberry
406	18	6	Bur Oak
407	6	3	Black Cherry
408	6	5	Red Oak
409	6	5	Red Oak
410	8	5	Red Oak
411	7	5	Red Oak
412	10	6	Red Oak
413	11	5	Red Oak
414	10	5	Red Oak
415	14	6	Bur Oak
416	6	3	Black Cherry
417	7	4	Black Cherry
418	20	3	Bur Oak
419	7	4	Red Oak
420	9	5	Red Oak
421	10	5	Red Oak
422	12	4	Box Elder
423	7	4	Red Oak
424	10	5	Red Oak
425	10	5	Red Oak
426	6	3	Black Cherry
427	11	5	Red Oak
428	15	4	Red Oak
429	10	5	Red Oak
430	12	5	Red Oak
431	12	5	Bur Oak
433	6	5	Red Oak
433	7	3	Black Cherry
434	9	3	Black Cherry
435	14	5	Red Oak
436	9	5	Bur Oak
437	14	4	Red Oak
438	16	5	Red Oak
439	8	4	Bur Oak
440	10	4	Bur Oak
441	17	5	Red Oak
442	6	5	Bur Oak
443	7	4	Bur Oak
444	6	6	Red Oak
445	8	4	Box Elder
446	7	4	Black Cherry
447	22	5	Red Oak
448	6	5	Black Cherry
449	12	5	Red Oak
450	10	5	Red Oak
451	23	7	Red Oak
452	7	5	Black Cherry
453	8	5	Black Cherry
454	16	6	Red Oak
455	10	5	Red Oak
456	9	5	Red Oak
457	8	5	Red Oak
458	8	5	Red Oak
459	8	5	Red Oak
460	9	5	Red Oak
461 12"		5	Red Cedar
462	8	5	Green Ash
463	7	6	Red Oak
464	11	5	Red Oak
465	7	5	Red Oak
466	13	5	Red Oak
467	15	4	Red Oak
468	6	4	Black Cherry
469	15	5	Red Oak
470	7	5	Red Oak

Condition Key
1 Dead
2 Very Poor
3 Poor
4 Fair
5 Average
6 Good
7 Very Good
8 Excellent
9 Outstanding

TREE TAG TABLE

(located 5/25/2022)

Tag	DBH	Species	Trunks
415	6	Maple	2
416	16	Maple	
417	16	Oak	
418	10	Oak	
421	14	Oak	
422	12	Oak	
423	18	Cherry	
424	12	Oak	
425	16	Oak	
426	16	Oak	2
427	12	Oak	7
428	16	Oak	2
429	8	Oak	2
430	14	Oak	2
431	22	Oak	
432	14	Ash	
433	8	Juniper	
434	18	Elm	2
435	16	Elm	
436	6	Oak	2
437	10	Oak	
438	16	Ash	
439	10	Ash	2
440	24	Oak	
441	22	Oak	
442	10	Oak	
443	10	Oak	
443	10	Oak	
444	30	Oak	
445	12	Oak	
446	14	Oak	
447	10	Oak	2

BOUNDARY AREA

714,799 S.F.
(16.41 ACRES)

"NO BUILDINGS OBSERVED"

ENCROACHMENT SUMMARY

- There is a gas line running along the south and west line of parcel, beyond the existing easement.
- There is a fence line that lies within the "Frontage Road". Ownership of said fence is uncertain.

LEGEND

- DENOTES SET MONUMENT MARKED #41578
- DENOTES IRON MONUMENT FOUND AS LABELED
- DENOTES ANOKA COUNTY CAST IRON MONUMENT
- DENOTES SIGNAL POLE
- DENOTES CATCH BASIN
- DENOTES CABLE PEDESTAL
- DENOTES ELECTRICAL BOX
- DENOTES ELECTRICAL MANHOLE
- DENOTES EXISTING SPOT ELEVATION
- DENOTES FIBER OPTIC BOX
- DENOTES GUY WIRE
- DENOTES HAND HOLE
- DENOTES HYDRANT
- DENOTES MISCELLANEOUS MANHOLE
- DENOTES POWER POLE
- DENOTES SANITARY SEWER MANHOLE
- DENOTES SIGN
- DENOTES SOIL BORING. (BY OTHERS)
- DENOTES STORM SEWER APRON
- DENOTES STORM SEWER MANHOLE
- DENOTES TELEPHONE PEDESTAL
- DENOTES WET LAND
- DENOTES SCHEDULE B-II EXCEPTION NO.
- DENOTES FENCE
- DENOTES RETAINING WALL
- DENOTES EXISTING CONTOURS
- DENOTES RESTRICTED ACCESS
- DENOTES EXISTING STORM SEWER
- DENOTES EXISTING SANITARY SEWER
- DENOTES EXISTING WATER MAIN
- DENOTES OVERHEAD UTILITY
- DENOTES UNDERGROUND ELECTRIC LINE
- DENOTES UNDERGROUND GAS LINE
- DENOTES UNDERGROUND CABLE LINE
- DENOTES UNDERGROUND TELEPHONE LINE
- DENOTES UNDERGROUND FIBER OPTIC LINE
- DENOTES EXISTING TREE LINE PER AERIAL
- DENOTES BITUMINOUS SURFACE
- DENOTES CONCRETE SURFACE
- DENOTES ADJACENT PARCEL OWNER INFORMATION (PER ANOKA COUNTY TAX INFORMATION)

GENERAL NOTES

1. Fee ownership is vested In 7 Eagles, LLC, a Minnesota limited liability company PID Number: 30-31-22-21-0004.
2. Address of the surveyed premises: Unassigned.
3. Bearings shown hereon are based on the Anoka County Coordinate System.
4. Surveyed premises shown on this survey map is in Flood Zone X (Areas determined to be outside the 0.2% annual chance floodplain.), according to Flood Insurance Rate Map Community No. 270015 Panel No. 0344 Suffix E by the Federal Emergency Management Agency, effective date December 16, 2015.
5. Boundary area of the surveyed premises: 714,670± sq. ft. (16.41 acres).
6. A Zoning Confirmation Letter from the City of Lino Lakes dated December 2, 2021 indicates that the surveyed premises shown on this survey is currently zoned GB-(General Business). Under the applicable zoning regulations, the current setbacks are:
   a) From Streets.
      Principal Building - Local Street. Thirty (30) feet.
      Principal Building - Collector or Arterial Street. Forty (40) feet.
      Parking Lot/Driveway. Fifteen (15) feet.
   b) Rear Yard.
      Principal Building. Thirty (30) feet.
      Accessory Building. Five (5) feet.
      Parking Lot. Ten (10) feet.
   c) Side Yard.
      Principal Building. Ten (10) feet.
      Accessory Building. Ten (10) feet.
      Parking Lot. Ten (10) feet.
   d) From Residential District. Thirty-five (35) feet.

   For additional information contact the Planning Department at the City of Lino Lakes at (651) 982-2426.
7. There are no marked or striped parking areas onsite.
8. The surveyed premises has Indirect access to Lake Drive (C.S.A.H. No. 23) via a publicly dedicated Frontage Road right of way (not constructed) and direct access to Hodgson Road (C.S.A.H. No. 49), both public roads.
9. Location of utilities existing on or serving the surveyed property determined by:
   - Observed evidence collected pursuant to Section 5.E.iv.
   - Markings requested by E.G. Rud and Sons, Inc. per Gopher State One Call Ticket No. 220050347.
   - Record drawings provided by the City of Lino Lake's engineering department.

   Excavations were not made during the process of this survey to locate underground utilities and/or structures. The location of underground utilities and/or structures may vary from locations shown hereon and additional underground utilities and/or structures may be encountered. Contact Gopher State One Call Notification Center at (651) 454-0002 for verification of utility type and field location, prior to excavation.
10. Subsurface and environmental conditions were not examined or considered during the process of this survey. No statement is made concerning the existence of underground or overhead containers or facilities that may affect the use or development of the surveyed premises.
11. Due to field work being completed during the winter season there may be improvements in addition to those shown that were not visible due to snow and ice conditions characteristic of Minnesota winters.
12. Wetland delineation and tree identification and tagging completed by Jacobson Environmental.
13. Old Republic National Title Insurance Company, File No. ORTE748154, Schedule B-II Survey Related Exceptions:

    2. Any discrepancies, conflicts, easements, boundary line disputes, encroachments or protrusions, or overlapping of improvements which would be disclosed by an Inspection and accurate survey of the premises. [Note: Existing Improvements are located and shown. See "encroachment summary".]

    9. Easement for trunk highway purposes, together with limitations on rights of access, acquired by the State of Minnesota as evidenced by Final Certificate filed as Document No. 149933. The above interests have been conveyed to the County of Anoka as evidenced by Quit Claim Deed filed December 29, 1997, as Document No. 1314226. [Surveyor's note: Said easement is shown on survey.]

    10. Permanent Easement for street and utility purposes, together with incidental rights thereof, in favor of the City of Lino Lakes as evidenced by Final Certificate File No. CO-94-1106 filed September 10, 1998, as Document No. 1370241. As set forth in Findings and Order In Court File No. CO-94-1106 dated March 1, 1994.1 [Surveyor's note: Said easement is shown on survey.]

    11. Easement for transmission and distribution of electrical energy purposes, together with incidental rights thereof, in favor of Northern States Power Company, a Minnesota corporation, as set forth in that certain Electric Distribution Easement filed September 23, 2003, as Document No. 1853907. [Surveyor's note: Said easement is shown on survey.]

    12. Easement for street and utility purposes In favor of the City of Lino Lakes as set forth In that certain Final Certificate filed August 10, 1992, as Document No. 993102. [Surveyor's note: Said easement is shown on survey.]

    13. A portion of the property contains wetlands which may be subject ot federal, state, or local regulation. The right to use or improve these wetlands is excepted herein. [Surveyor's note: Wetlands are shown on the survey per delineation by Jacobson Environmental.]

    14 The following matters as disclosed by ALTA/NSPS Land Title Survey prepared by Jason E. Rud with E.G. Rud & Sons, Inc., dated February 14, 2022, as Job No. 211523AB:
    a) A gas line running along the south and west line of parcel with no apparent easement agreement of record.
    b) Fence line lies within the "Frontage Road", ownership of said fence is uncertain.

CERTIFICATION

I hereby certify to Kwik Trip, Inc., a Wisconsin corporation; and to Old Republic National Title Insurance Company, that this is a survey of:

That part of Government Lot 1, Section 30, Township 31 North, Range 22 West, Anoka County, Minnesota, described as follows: Lying southeasterly of the centerline of County State Aid Highway No. 23 and lying westerly of the centerline of County State Aid Highway No. 49 (a/k/a Hodgson Road).

Abstract Property

and is based upon information found in the commitment for title insurance prepared by Old Republic National Title Insurance Company, File No. ORTE748154, Supplemental No. 5, dated effective May 26, 2022, at 7:00 A.M., and that all easements, if any, listed in Schedule B-II on the herein referenced commitment for title insurance, are shown hereon; and that this map or plat and the survey on which it is based were made (i) in accordance with "Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys," jointly established and adopted by ALTA and NSPS in 2021, and (ii) pursuant to the Accuracy Standards as adopted by ALTA and NSPS and in effect on the date of this certification, the undersigned further certifies that in my professional opinion, as a land surveyor licensed in the State of Minnesota, the Relative Positional Accuracy of this survey does not exceed that which is specified therein and includes Items 1, 2, 3, 4, 6(a), 7(a), 8, 9, 10, 11(a), 11(b) and 13 of Table A thereof. The field work was completed on May 25, 2022.

I further certify that this survey was prepared by me or under my direct supervision and that I am a duly Licensed Land Surveyor under the laws of the State of Minnesota.

Date: December 19, 2022

E.G. Rud & Sons, Inc.

Jason E. Rud, Land Surveyor
Minnesota License No. 41578

DRAWN BY: BPN	JOB NO: 211523AB	DATE: 2/2/2022
CHECK BY: JER	FIELD CREW: BH	

NO.	DATE	DESCRIPTION	BY
1	2/14/2022	CLIENT COMMENTS	BPN
2	5/25/2022	UPDATED TREE INVENTORY	BPN
3	7/5/2022	UPDATED TITLE COMMITMENT	BPN
4	12/19/22	ADDED ROAD STRIPING	BPN

E. G. RUD & SONS, INC.
EST. 1977
Professional Land Surveyors
6776 Lake Drive NE, Suite 110
Lino Lakes, MN 55014
Tel. (651) 361-8200 Fax (651) 361-8701
www.egrud.com

211523AB

C:\CIVIL 3D PROJECTS\21.1523 KWIK TRIP 1266\211523AB.DWG


NORTH LINE OF THE NW 1/4 OF SEC. 30, T. 31, R. 22
PIN No. 30-31-22-23-0050
Owner: City of Circle Pines
Address: 54 North Road
CENTERLINE OF C.S.A.H. NO. 23
TRANSMISSION LINE EASEMENT PER DOC. NO. 1853907
LAKE DRIVE (C.S.A.H. NO. 23)
(PUBLIC ROAD)
HIGHWAY EASEMENT PER DOC. NO. 3314226
RESTRICTED ACCESS PER DOC. NO. 3314226
CATCH BASINS FILLED WITH SNOW
48" RCP
75.0
60' DIP
30' VISION TRIANGLE
15 PARKING FIELD SETBACK
5' SIGN SETBACK
BASELINE
CAR WASH 177 FFE=903.33
CONVENIENCE STORE FFE=904.0
Car wash stacking
CASH WASH
Vac Vac
Vac Vac Exit
Vac Vac Entrance
Vac Vac Exit
Vac Vac Entrance
Vac Vac Exit
Vac Vac Entrance



CONSTRUCTION NOTE:

CONSTRUCTION FENCING TO BE INSTALLED AROUND ENTIRE CONSTRUCTION SITE. COORDINATE WITH OWNER FOR FENCING AND GATE LOCATIONS AND APPROPRIATE SIGNAGE INSTALLATION.

LAYOUT NOTES:

1. PLAN PREPARED FROM AN ALTA/ACSM LAND TITLE SURVEY BY: E.G. RUD & SONS, INC.
2. CURBS ARE DIMENSIONED TO FACE OF CURB.
3. CONVENIENCE STORE AND ISLAND COMPLEXES ARE LOCATED FROM THE NORTHWEST PROPERTY CORNER AND ALIGNED PARALLEL/ PERPENDICULAR TO THE WEST PROPERTY LINE UNLESS OTHERWISE INDICATED ON THIS PLAN.
4. UNLESS SHOWN OTHERWISE ON THIS DRAWING, CONTRACTOR SHALL PROVIDE CONTROL JOINTS, CONSTRUCTION JOINTS, AND EXPANSION JOINTS IN SLAB ON GRADE, SIDEWALKS AND DRIVES.
   CONTROL JOINT MAXIMUM DISTANCE: WALKS- 8' O.C., ALL OTHERS- 10' O.C. SAW CUT CONTROL JOINTS MINIMUM ONE-QUARTER CONCRETE THICKNESS.
   EXPANSION JOINT MAXIMUM DISTANCE: WALKS- 24' O.C., ALL OTHERS- 40' O.C. DOWEL ALL EXPANSION JOINTS- MAXIMUM 24' O.C.
5. CONCRETE IN ISLAND COMPLEX SHALL BE SMOOTH BROOM FINISHED.
6. EXTERIOR CONCRETE SURFACES TO BE SEALED. CONCRETE SEALER:
   APR 15- OCT 31 USE: TK-26UV
   NOV 1- DEC 31 USE: TK-290
7. EXPANSION JOINTS SHALL BE DECK-O-FOAMED AND CAULKED WITH SL1

SITE DATA:

ZONING DISTRICT:	GB
TOTAL SITE AREA:	621,318 SF
EX. IMPERVIOUS:	0 SF
EX. PERVIOUS:	621,318 SF
PARKING REQUIREMENTS	
PARKING REQUIRED	1/200SF RETAIL FLR - 4,900SF/200 = 24
PARKING PROVIDED	38 STALLS + 2 VACUUM 20 SRV. PNTS + DIESEL
BUILDING HEIGHTS	
CONVENIENCE STORE	23.0'
CANOPY	18.0'
BUILDING SETBACKS	
FRONT	40'
REAR	30'
SIDE	35'
PROPOSED GREEN AREA:	539,795 SF
PROPOSED HARD COVER:	81,523 SF
PAVED AREA:	70,415 SF
BUILDING AREA:	11,108 SF
BUILDING FOOTPRINT AREA:	10,902 SF

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KWIK STAR

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LACROSSE, WI 54602-2107
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FAX (608) 781-8960

INSITES
SITE PLANNING LANDSCAPE ARCHITECTURE
3131 Fernbrook Lane North, STE 260
Plymouth Minnesota 55447
763.383.8400
fax 763.383.8440

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

Date 25JAN23 License No. 19306

Signed Robert J. Mueller

SITE DIMENSION PLAN

CONVENIENCE STORE 1266

-- LINO LAKES, MINNESOTA

NO.	DATE	DESCRIPTION
-	22APR25	INTERNAL REVIEW
-	22MAY05	SUBMITTAL
-	22MAY20	ROW WAYSITE SHIFT
-	22JUN27	CITY COMMENTS
-	05AUG22	RCWD COMMENTS
-	13SEP22	BID SET/CITY COMMENTS
-	15SEP22	BID SET
-	16NOV22	CITY COMMENTS
-	11JAN23	CITY COMMENTS
-	31JAN23	CITY COMMENTS
-	09FEB23	ANOKA COUNTY COMMENTS
-	13FEB23	CONSTRUCTION

DRAWN BY	
SCALE	GRAPHIC
PROJ. NO.	22-1266
DATE	04-25-22
SHEET	SP1

INSITES 22-069 PM JJV



SITE PLAN KEYNOTES

1. LANDSCAPE AREA. SEE SHEET L1.
2. OFF-STREET PARKING STALLS
   STRIPING - 4" WIDE STALL LINES, USE HIGH VISIBILITY WHITE PAINT.
   SPACES PROVIDED
   (20) SERVICE POINTS
   (0) DIESEL POINTS
   (42) 9'-0"x 20'-0"(MIN.) GENERAL PARKING
   (3) 8'-0"x 20'-0" (MIN) ACCESSIBLE PARKING W/
   (1) 9'-0"x 20'-0" (MIN) LOADING ZONE
   (2) 11'-0"x 20'-0" VACUUM STALLS
3. A.D.A. ACCESSIBLE PARKING SPACE WITH LOADING ZONE. PROVIDE APPROPRIATE STRIPING AND PAVEMENT MARKINGS.
4. 4" WIDE, HIGH VISIBILITY, PAVEMENT STRIPING, LANE MARKINGS AND TEXT. COLOR: HC MARKINGS- BLUE, ALL OTHERS- YELLOW. HATCHING LINES 5' ON CENTER, LETTERS 12" HIGH AND 6" LETTER SPACING.
5. 56,395 SF — 6" DEPTH (MIN.) CONCRETE SLAB-ON-GRADE WITH #3 REBAR, 3' O.C. CONCRETE SEALER: TK-26UV
6. 12,835 SF — 8" DEPTH (MIN.) CONCRETE SLAB-ON-GRADE WITH #4 REBAR, 3' O.C. CONCRETE SEALER: TK-26UV
7. B6-12 CONCRETE CURB AND GUTTER PER DETAIL 11/SP5.
8. 2,347 SF — 6" INTEGRAL CONCRETE CURB/ WALK. SEE DETAIL 7/SP5 FOR NON-FLUSH SECTIONS. CONCRETE SEALER: TK-26UV
9. STORM STRUCTURE. SEE SHEETS SP2-SP4.1, SP6 FOR FURTHER STORM SEWER INFORMATION.
10. 30" HT., 6" DIA. CONCRETE FILLED PIPE BOLLARD PER DETAIL 9/SP5.
11. 8 STALL BIKE RACK WITH 4" CONCRETE PAD
    (BRP 300 TRADITIONAL BIKE RACK,-SINGLE SIDE
    PORTABLE/ SURFACE MOUNT ENDS
    FUSION COATINGS - A DIVISION OF RTM INC.
    TO BE PROVIDED BY OWNER)
12. 40'-0"x 120'-0" DISPENSER ISLAND CANOPY. VERIFY SIZE, PLACEMENT, COLUMN AND FOOTING SIZE WITH CANOPY AND STRUCTURAL PLANS. CANOPY GRAPHICS PER OWNER.
13. ~~24'-0"x 50'-0" COMMERCIAL DIESEL DISPENSER ISLAND CANOPY. VERIFY SIZE, PLACEMENT, COLUMN AND FOOTING SIZE WITH CANOPY AND STRUCTURAL PLANS. CANOPY GRAPHICS PER OWNER.~~
14. CONCRETE ISLANDS W/ 6" EXPOSURE WITH FUEL DISPENSERS. DISPENSER PER OWNER.
    A. 3'-6"x 7'-0"
    ~~B. 3'-6"x 8'-0"~~
15. 36" HT., 6" DIA. CONCRETE FILLED PIPE BOLLARD PER DETAIL 8/SP5.
16. UNDERGROUND FUEL STORAGE TANKS PER OWNER. PROVIDE PIPING AND VENTING PER OWNER'S SPECIFICATIONS.
17. EXTERNAL TRASH ENCLOSURE TO MATCH BUILDING. SEE ARCHITECTURAL DETAILS.
18. KWIK TRIP TRADEMARK SIGN (VERIFY LOCATION WITH SIGN PERMIT)
19. "FREE AIR" COMPRESSOR. PROVIDE SIGNAGE PER OWNER.
20. SITE AREA LIGHT WITH CONCRETE BASE PER DETAIL 12/SP5
21. PVC IRRIGATION SLEEVE UNDER PAVEMENT. VERIFY W/ IRRIGATION PLAN FOR EXACT SIZE AND LOCATION BEFORE INSTALLATION.
22. N/A SF — ~~4" DEPTH CONCRETE WALK PER DETAIL 3/SP5~~
23. HC PVC BOLLARD SLEEVE PER OWNER. VAN ACCESS SIGNAGE AT 48" HT. STALL PARKING AT 60" HT.
24. OUTDOOR MERCHANDISING AREA
25. ~~48" HT., 6" DIA. CONCRETE FILLED PIPE BOLLARD PER DETAIL 6/SP5.~~
26. PICNIC TABLE PER OWNER. PROVIDE 1 HC. ACCESS TABLE SPACE. PROVIDE TRASH CONTAINER PER OWNER.
27. EXTERIOR DELIVERY 'TOTE' STORAGE WITH SCREEN WALL
28. ELECTRICAL TRANSFORMER
29. ELECTRICAL DISCONNECT
30. GREASE INTERCEPTOR
31. TURN LANE (SEE P1 FOR NEW AND REMOVAL TURM LANE STRIPING)
    A. SEE P.1 FOR NEW AND REMOVAL TURM LANE STRIPING
    B. SEE P3 FOR NEW AND REMOVAL TURM LANE STRIPING
32. CONCRETE CURB ISLAND
33. VACUUM PER MANUFACTURE'S SPECIFICATIONS. SEE DETAIL 1/SP5.
34. CAR WASH KEY PAD/ CONTROLLER. PROVIDE TRASH CONTAINER
35. 6" CONCRETE PAD WITH SNOW MELT PER MECHANICAL PLANS
36. 1,783 SF — APPROACH PER DETAIL 10/SP5
37. STORM OUTFALL WITH RIP RAP, SEE DETAIL 3/SP6
38. EXISTING TREES TO REMAIN, FENCE PROTECTION PER CITY DETAIL
39. MOUNTABLE D-4 CURB SEE DETAIL 11/SP5
40. REJECT GUTTER- TIP GUTTER AWAY FROM FACE OF CURB FOR SHEET FLOW
41. PAINT TAPERING EDGE FOR HIGH VISIBILITY
42. GRAVEL MAINTENANCE ROAD TO POND
43. 8.5' BITUMINOUS PATH PER 10/SP6
44. 5' CONCRETE SIDEWALK PER 10/SP6

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Date 25JAN23 — Reg. No. 19306

Signed — Robert J. Mueller

SITE KEYNOTE PLAN

CONVENIENCE STORE 1266

-- LINO LAKES, MINNESOTA

NO.	DATE	DESCRIPTION
-	22APR25	INTERNAL REVIEW
-	22MAY05	SUBMITTAL
-	22MAY20	ROW WAYSITE SHIFT
-	22JUN27	CITY COMMENTS
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-	11JAN23	CITY COMMENTS
-	31JAN23	CITY COMMENTS
-	09FEB23	ANOKA COUNTY COMMENTS
-	13FEB23	CONSTRUCTION

DRAWN BY:
SCALE: GRAPHIC
PROJ. NO.: 22-1266
DATE: 04-25-22
SHEET: SP1.1

INSITES 22-009 PM JVY



SITE PLAN KEYNOTES

1. LANDSCAPE AREA. SEE SHEET L1.
2. OFF-STREET PARKING STALLS
   STRIPING - 4" WIDE STALL LINES, USE HIGH VISIBILITY WHITE PAINT.
   SPACES PROVIDED
   (20) SERVICE POINTS
   (0) DIESEL POINTS
   (42) 9'-0"x 20'-0"(MIN.) GENERAL PARKING
   (3) 8'-0"x 20'-0" (MIN) ACCESSIBLE PARKING W/
   (1) 9'-0"x 20'-0" (MIN) LOADING ZONE
   (2) 11'-0"x 20'-0" VACUUM STALLS
3. A.D.A. ACCESSIBLE PARKING SPACE WITH LOADING ZONE. PROVIDE APPROPRIATE STRIPING AND PAVEMENT MARKINGS.
4. 4" WIDE, HIGH VISIBILITY, PAVEMENT STRIPING, LANE MARKINGS AND TEXT. COLOR: HC MARKINGS- BLUE, ALL OTHERS- YELLOW. HATCHING LINES 5' ON CENTER, LETTERS 12" HIGH AND 6" LETTER SPACING.

19,375 SF — 5. 6" DEPTH (MIN.) CONCRETE SLAB-ON-GRADE WITH #3 REBAR, 3' O.C. CONCRETE SEALER: TK-26UV

50,299 SF — 6. 8" DEPTH (MIN.) CONCRETE SLAB-ON-GRADE WITH #4 REBAR, 3' O.C. CONCRETE SEALER: TK-26UV

7. BG-12 CONCRETE CURB AND GUTTER PER DETAIL 11/SP5.

2,347 SF — 8. 6" INTEGRAL CONCRETE CURB/ WALK. SEE DETAIL 7/SP5 FOR NON-FLUSH SECTIONS. CONCRETE SEALER: TK-26UV

9. STORM STRUCTURE. SEE SHEETS SP2-SP4.1, SPG FOR FURTHER STORM SEWER INFORMATION.
10. 30" HT., 6" DIA. CONCRETE FILLED PIPE BOLLARD PER DETAIL 9/SP5.
11. 8 STALL BIKE RACK WITH 4" CONCRETE PAD
    (BRP 300 TRADITIONAL BIKE RACK,SINGLE SIDE
    PORTABLE/ SURFACE MOUNT ENDS
    FUSION COATINGS - A DIVISION OF RTM INC.
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    A. 3'-6"x 7'-0"
    ~~B. 3'-6"x 8'-0"~~
15. 36" HT., 6" DIA. CONCRETE FILLED PIPE BOLLARD PER DETAIL 8/SP5.
16. UNDERGROUND FUEL STORAGE TANKS PER OWNER. PROVIDE PIPING AND VENTING PER OWNER'S SPECIFICATIONS.
17. EXTERNAL TRASH ENCLOSURE TO MATCH BUILDING. SEE ARCHITECTURAL DETAILS.
18. KWIK TRIP TRADEMARK SIGN (VERIFY LOCATION WITH SIGN PERMIT)
19. "FREE AIR" COMPRESSOR. PROVIDE SIGNAGE PER OWNER.
20. SITE AREA LIGHT WITH CONCRETE BASE PER DETAIL 12/SP5
21. PVC IRRIGATION SLEEVE UNDER PAVEMENT. VERIFY W/ IRRIGATION PLAN FOR EXACT SIZE AND LOCATION BEFORE INSTALLATION.

N/A SF — 22. ~~4" DEPTH CONCRETE WALK PER DETAIL 3/SP5~~

23. HC PVC BOLLARD SLEEVE PER OWNER. VAN ACCESS SIGNAGE AT 48" HT. STALL PARKING AT 60" HT.
24. OUTDOOR MERCHANDISING AREA
25. ~~48" HT., 6" DIA. CONCRETE FILLED PIPE BOLLARD PER DETAIL 6/SP5.~~
26. PICNIC TABLE PER OWNER. PROVIDE 1 HC. ACCESS TABLE SPACE. PROVIDE TRASH CONTAINER PER OWNER.
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32. CONCRETE CURB ISLAND
33. VACUUM PER MANUFACTURE'S SPECIFICATIONS. SEE DETAIL 1/SP5.
34. CAR WASH KEY PAD/ CONTROLLER. PROVIDE TRASH CONTAINER
35. 6" CONCRETE PAD WITH SNOW MELT PER MECHANICAL PLANS

1,783 SF — 36. APPROACH PER DETAIL 10/SP5

37. STORM OUTFALL WITH RIP RAP, SEE DETAIL 3/SP6
38. EXISTING TREES TO REMAIN, FENCE PROTECTION PER CITY DETAIL
39. MOUNTABLE D-4 CURB SEE DETAIL 11/SP5
40. REJECT GUTTER- TIP GUTTER AWAY FROM FACE OF CURB FOR SHEET FLOW
41. PAINT TAPERING EDGE FOR HIGH VISIBILITY
42. GRAVEL MAINTENANCE ROAD TO POND
43. 8.5' BITUMINOUS PATH PER 10/SP6
44. 5' CONCRETE SIDEWALK 10/SP6
45. WETLAND BUFFER

811 Know what's below. Call before you dig.

NORTH
SCALE: 1" = 40'

40 20 0 40 80

PLOTTING NOTE: PLANS PLOTTED TO 11x17 SHEET SIZE ARE ½ SCALE- 1"=80'

KWIK TRIP

KWIK STAR

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Date 25JAN23 License No. 19306

Signed Robert J. Mueller

SITE KEYNOTE PLAN

CONVENIENCE STORE 1266

-- LINO LAKES, MINNESOTA

NO.	DATE	DESCRIPTION
-	23APR25	INTERNAL REVIEW
-	22MAY05	SUBMITTAL
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-	31JAN23	CITY COMMENTS
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-	13FEB23	CONSTRUCTION

DRAWN BY

SCALE GRAPHIC

PROJ. NO. 22-1266

DATE 04-25-22

SHEET **SP1.2**

INSITES 22-009 PM JV



NOTE: CONTRACTOR TO OBTAIN RIGHT-OF-WAY EXCAVATION PERMIT PRIOR TO BEGINNING SITE WORK.

CONSTRUCTION NOTE:

CONSTRUCTION FENCING TO BE INSTALLED AROUND ENTIRE CONSTRUCTION SITE. COORDINATE WITH OWNER FOR FENCING AND GATE LOCATIONS AND APPROPRIATE SIGNAGE INSTALLATION.

NOTE:

- REFER TO OTHER PROJECT PLANS AND INFORMATION RELATED TO THIS PROJECT PRIOR TO BEGINNING ANY GRADING WORK.

- PLAN PREPARED FROM ALTA/ACSM LAND TITLE SURVEY BY:

EG RUD & SONS LAND SURVEYING
6776 LAKE DR. #110
LINO LAKES, MN 55014
651-361-8200

- CONTRACTOR SHALL LOCATE ALL UTILITIES WHICH MAY AFFECT THIS WORK AND NOTIFY OWNER OF ANY CONFLICTS.

- CONTRACTOR SHALL VERIFY ALL EXISTING AND PROPOSED ELEVATIONS PRIOR TO START OF CONSTRUCTION. VERIFY CRITICAL ELEVATIONS TO ENSURE CONFORMANCE WITH GRADING PLAN, PARTICULARLY WITH WALK AND/OR PAVEMENTS TO REMAIN. MEET EXISTING GRADES ALONG STREETS, PROPERTY LINES AND DRIVEWAY ENTRANCES. RESTORE ALL EXISTING PAVEMENTS THAT REMAIN TO THEIR ORIGINAL, IF NOT BETTER CONDITION. NOTIFY OWNER OF ANY CONFLICTS.

- AREAS NOT PAVED AND TO BE LANDSCAPED SHALL RECEIVE MINIMUM OF 4" DEPTH COMPACTED TOPSOIL.

- CONTRACTOR SHALL COORDINATE GRADING AND INSTALLATION OF DRIVES IN R.O.W. WITH APPROPRIATE GOVERNMENT AGENCIES. OBTAIN APPROPRIATE PERMITS FOR GRADING AND DRAINAGE IN ALL R.O.W.

- REFER TO OWNER'S SPECIFICATIONS FOR CURB, APPROACH, BITUMINOUS, AND CONCRETE PROFILES, AS WELL AS ADDITIONAL SITE STANDARDS RELATED TO THIS PROJECT.

FINISHED FLOOR ELEVATIONS

PROPOSED CONVENIENCE STORE
FINISHED ELEVATION = 904.0 FEET

PROPOSED CAR WASH
FINISHED ELEVATION = 903.33 FEET

BENCHMARK
SEE SURVEY FOR BENCHMARK INFORMATION

NOTE GRADING CONTRACTOR:

ANY PROPERTY IRONS THAT ARE DISTURBED IN THE GRADING PROCESS SHALL BE RESET BY A LICENSED LAND SURVEYOR AT NO ADDITIONAL COST TO THE OWNER.

KWIK TRIP

KWIK STAR

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Date 25JAN23 License No. 19306

Signed Robert J. Mueller

GRADE PLAN

CONVENIENCE STORE 1266

-- LINO LAKES, MINNESOTA

NO.	DATE	DESCRIPTION
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-	09FEB23	ANOKA COUNTY COMMENTS
-	13FEB23	CONSTRUCTION

DRAWN BY

SCALE GRAPHIC

PROJ. NO. 22-1266

DATE 04-25-22

SHEET **SP2a**

INSITES 22-069 PM: JV

NOTE: CONTRACTOR TO OBTAIN RIGHT-OF-WAY EXCAVATION PERMIT PRIOR TO BEGINNING SITE WORK.

CONSTRUCTION NOTE:

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NOTE:

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- PLAN PREPARED FROM ALTA/ACSM LAND TITLE SURVEY BY:

  EG RUD & SONS LAND SURVEYING
  6776 LAKE DR #110
  LINO LAKES, MN 55014
  651-361-8200

- CONTRACTOR SHALL LOCATE ALL UTILITIES WHICH MAY AFFECT THIS WORK AND NOTIFY OWNER OF ANY CONFLICTS.

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- AREAS NOT PAVED AND TO BE LANDSCAPED SHALL RECEIVE MINIMUM OF 4" DEPTH COMPACTED TOPSOIL.

- CONTRACTOR SHALL COORDINATE GRADING AND INSTALLATION OF DRIVES IN R.O.W. WITH APPROPRIATE GOVERNMENT AGENCIES. OBTAIN APPROPRIATE PERMITS FOR GRADING AND DRAINAGE IN ALL R.O.W.

- REFER TO OWNER'S SPECIFICATIONS FOR CURB, APPROACH, BITUMINOUS, AND CONCRETE PROFILES, AS WELL AS ADDITIONAL SITE STANDARDS RELATED TO THIS PROJECT.

FINISHED FLOOR ELEVATIONS

PROPOSED CONVENIENCE STORE
FINISHED ELEVATION = 904.0 FEET

PROPOSED CAR WASH
FINISHED ELEVATION = 903.33 FEET

BENCHMARK
SEE SURVEY FOR BENCHMARK INFORMATION

NOTE GRADING CONTRACTOR:

ANY PROPERTY IRONS THAT ARE DISTURBED IN THE GRADING PROCESS SHALL BE RESET BY A LICENSED LAND SURVEYOR AT NO ADDITIONAL COST TO THE OWNER.

CENTERLINE OF C.S.A.H. NO. 23

WETLAND

SOUTH LINE OF GOV. LOT 1

WEST LINE OF GOV. LOT 1

EXISTING TREES TO REMAIN

STORMWATER WET BASIN W/ LINER (see detail 11/SP6)
NWL = 889.00
100-YR HWL = 892.6
PERMANENT POOL VOL. REQD = 18,564 CF
PERMANENT POOL VOL. PROVIDED = 21,125 CF

25.0' MIN. BUFFER WIDTH

50' BUFFER WIDTH

25.0' BUFFER WIDTH

20.0' TRAIL EASEMENT

STREET AND UTILITY EASEMENT PER DOC. NO. 993102, AS SHOWN ON ANOKA COUNTY HALF SECTION MAP

CORPORATE LIMITS OF THE CITY OF LINO LAKES

PIN No. 30-31-22-24-0014
Owner: Elizabeth Jarvi
Address: 6692 Sandhill Drive

PIN No. 30-31-22-24-0004
Owner: City of Lino Lakes
Address: Unassigned

PIN No. 30-31-22-23-0032
Owner: City of Circle Pines
Address: Unassigned

PIN No. 30-31-22-22-0088
Owner: Peng Zhang
Address: 260 Pine Hollow Dr.

PIN No. 30-31-22-22-0081
Owner: Heather Schmidt
Address: 233 Pine Hollow Dr.

PIN No. 30-31-22-22-0082
Owner: Sanjay Makwana
Address: 235 Pine Hollow Dr.

PIN No. 30-31-22-22-0083
Owner: Jon Latcham
Address: 237 Pine Hollow Dr.

PIN No. 30-31-22-22-0106
Owner: Pine Hollow Owners Assoc.
Address: 231A Pine Hollow Dr.

PINE HOLLOW DRIVE (PUBLIC ROAD)

Know what's below. Call before you dig.

NORTH
SCALE: 1" = 40'

40 20 0 40 80

PLOTTING NOTE: PLANS PLOTTED TO 11x17 SHEET SIZE ARE ½ SCALE- 1"=80'

KWIK TRIP

KWIK STAR

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

INSITES
SITE PLANNING LANDSCAPE ARCHITECTURE
3131 Fernbrook Lane North, STE 260
Plymouth Minnesota 55447
763.383.8400
fax 763.383.8440

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

Date 25JAN23 License No. 19306

Signed Robert J. Mueller

GRADE PLAN

CONVENIENCE STORE 1266

-- LINO LAKES, MINNESOTA

NO.	DATE	DESCRIPTION
-	22APR25	INTERNAL REVIEW
-	22MAY05	SUBMITTAL
-	22MAY20	ROW WAYSITE SHIFT
-	22JUN27	CITY COMMENTS
-	05AUG22	ROWD COMMENTS
-	13SEP22	BID SET/CITY COMMENTS
-	15SEP22	BID SET
-	16NOV22	CITY COMMENTS
-	11JAN23	CITY COMMENTS
-	31JAN23	CITY COMMENTS
-	09FEB23	ANOKA COUNTY COMMENTS
-	13FEB23	CONSTRUCTION

DRAWN BY

SCALE GRAPHIC

PROJ. NO. 22-1266

DATE 04-25-22

SHEET **SP2b**

INSITES 22-009 PM JVY



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GRADE PLAN ENLARGED

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DRAWN BY	
SCALE	GRAPHIC
PROJ. NO.	22-1266
DATE	04-25-22
SHEET	SP2.1

INSITES 22-069 PM: JV

EXISTING TREES TO REMAIN

EXISTING TREES TO REMAIN

NEW CB#2 (GØ)
RIM 899.50

NEW CB#3 (5'Ø)
RIM 896.00

NEW MH#9 (5'Ø)
RIM 903.25

NEW VAULT ACCESS
RIM 901.50

NEW APRON#10
INV. 889.00

POINT A
RIM 896.00

4GLF 18" CMP VARIABLE HEIGHT SLOTTED DRAIN
RIMn 893.75, RIMs 893.50

NYLOPLAST DRAIN BASIN W/ STANDARD GRATE
RIM 894.00

HODGSON ROAD

(PUBLIC ROAD)

CENTERLINE OF C.S.A.H. NO. 23

WEST LINE OF GOV. LOT 1

CORPORATE LIMITS OF LINO LAKES

EXISTING TREES TO REMAIN

STORMWATER WET BASIN W/ LINER (see detail 11/SP6)
NWL = 889.00
100-YR HWL = 892.6
PERMANENT POOL VOL. REQ'D = 18,564 CF
PERMANENT POOL VOL. PROVIDED = 21,125 CF

25.0' MIN. BUFFER WIDTH

NEW APRON#11
INV. 886.00

NEW OUTLET STRUCTURE#1
SEE DETAIL SHEET SP3.2

NEW APRON#12
INV. 888.50

50' BUFFER WIDTH

WETLAND

PINE HOLLOW DRIVE

PIN No. 30-31-22-22-0066
Owner: Jared Pfeiffer
Address: 227 Pine Hollow Dr.

PIN No. 30-31-22-22-0067
Owner: Eric Tu Chen
Address: 229 Pine Hollow Dr.

PIN No. 30-31-22-22-0068
Owner: Bethany Earley
Address: 231 Pine Hollow Dr.

PIN No. 30-31-22-22-0106
Owner: Kevin & Jennifer Arndt
Address: 231A Pine Hollow Dr.

PIN No. 30-31-22-22-0081
Address: 233 Pine Hollow Dr.

PIN No. 30-31-22-22-0080
Address: 235 Pine Hollow Dr.

Know what's below. Call before you dig.

NORTH
SCALE: 1" = 30'

30 15 0 30 60

PLOTTING NOTE: PLANS PLOTTED TO 11x17 SHEET SIZE ARE ½ SCALE- 1"=60'

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CONVENIENCE STORE 1266

LINO LAKES, MINNESOTA

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DRAWN BY

SCALE GRAPHIC

PROJ. NO. 22-1266

DATE 04-25-22

SHEET **SP2.2**

INSITES 22-0069 PM JV

NWL = 889.00
100-YR HWL = 892.6
PERMANENT POOL VOL. REQ'D = 18,564 CF
PERMANENT POOL VOL. PROVIDED = 21,125 CF

WETLAND

25.0' MIN. BUFFER WIDTH

NEW APRON#11
INV. 886.00

NEW OUTLET STRUCTURE#1
SEE DETAIL SHEET SP3.2

NEW APRON#12
INV. 888.50

50' BUFFER WIDTH

NEW APRON#14
INV. 890.50

NEW APRON#13
INV. 889.00

25.0' BUFFER WIDTH

20.0' TRAIL EASEMENT

SOUTH LINE OF GOV. LOT 1

EXISTING TREES TO REMAIN

STREET AND UTILITY EASEMENT PER DOC. NO. 993102, AS SHOWN ON ANOKA COUNTY HALF SECTION MAP.

EXISTING TREES TO BE REMOVED TO ALLOW FOR PASS THROUGH OF NEW TRAIL

VARIFY PRIVATE UTILITIES IN THE AREA PRIOR TO CONSTRUCTION

PIN No. 30-31-22-23-0032
Owner: City of Circle Pines
Address: Unassigned

PIN No. 30-31-22-24-0004
Owner: City of Lino Lakes
Address: Unassigned

PIN No. 30-31-22-24-0014
Owner: Elizabeth Jarvi
Address: 6692 Sandhill Drive

PIN No. 30-31-22-24-0088
Owner: City of Lino Lakes
Address: Unassigned

PIN No. 30-31-22-24-0087
Owner: Benjamin Ollila
Address: Unassigned

PIN No. 30-31-22-22-0086
Owner: Peng Zhang
Address: 200 Pine Hollow Dr.

RICE LAKE ESTATES

PARK 1

(PUBLIC ROAD)

Know what's below. Call before you dig. 811

NORTH
SCALE: 1" = 30'

30 15 0 30 60

PLOTTING NOTE: PLANS PLOTTED TO 11x17 SHEET SIZE ARE ½ SCALE- 1"=60'

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Date 25JAN23 Reg. No. 19306

Signed Robert J. Mueller

GRADE PLAN ENLARGED

CONVENIENCE STORE 1266

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-	09FEB23	ANOKA COUNTY COMMENTS
-	13FEB23	CONSTRUCTION

DRAWN BY

SCALE GRAPHIC

PROJ. NO. 22-1266

DATE 04-25-22

SHEET **SP2.3**

INSITES 22-009 PM JJV



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GRADE PLAN SPOT DETAIL

CONVENIENCE STORE 1266

-- LINO LAKES, MINNESOTA

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-	09FEB23	ANOKA COUNTY COMMENTS
-	13FEB23	CONSTRUCTION

DRAWN BY

SCALE GRAPHIC

PROJ. NO. 22-1266

DATE 04-25-22

SHEET **SP2.2.1**

INSITES 22-008 PM J.V.



PLOTTING NOTE: PLANS PLOTTED TO 11x17 SHEET SIZE ARE ½ SCALE- 1"=20'

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GRADE PLAN SPOT DETAIL

CONVENIENCE STORE 1266

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-	13FEB23	CONSTRUCTION

DRAWN BY

SCALE GRAPHIC

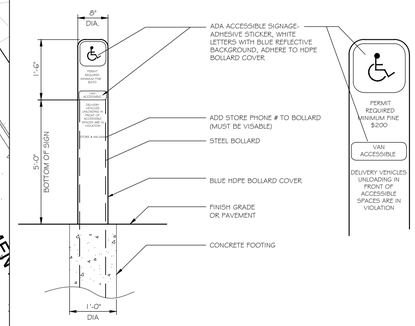
PROJ. NO. 22-1266

DATE 04-25-22

SHEET **SP2.2.2**

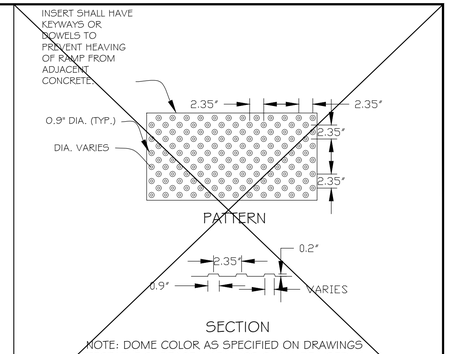
INSITES 22-009 PM JV





ADA BOLLARD SIGNAGE

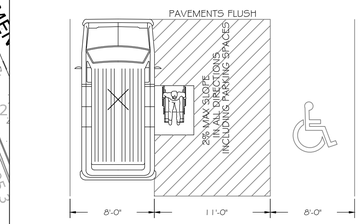
NOT TO SCALE

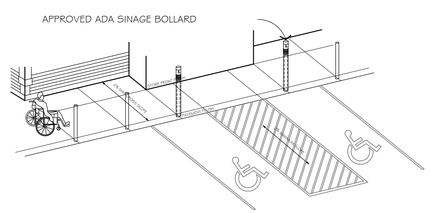


NOTE: DOME COLOR AS SPECIFIED ON DRAWINGS (DETECTABLE SURFACE WARNINGS SHALL BE USED IN ALL PUBLIC R.O.W. ACCESS POINTS)

DETECTABLE WARNING INSERT(TRUNCATED DOMES)

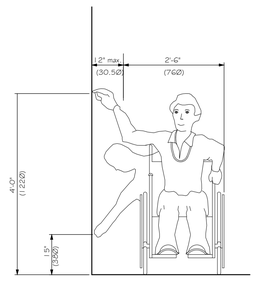
NOT TO SCALE



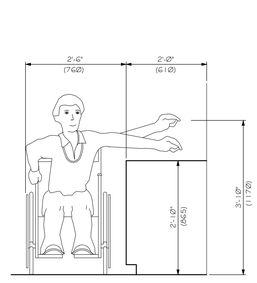


VAN ACCESSIBLE PARKING

NOT TO SCALE



HIGH AND LOW - SIDE REACH LIMITS



MAXIMUM SIDE REACH OVER OBSTRUCTION

ACCESSIBLE REACH DIMENSIONS

NOT TO SCALE

NOTES:

-REFER TO THE DOCUMENT FROM THE DEPARTMENT OF JUSTICE ON "2010 ADA STANDARDS FOR ACCESSIBLE DESIGN". CONTRACTOR SHALL REFERENCE CURRENT A.D.A. GUIDLINES AND LOCAL REGULATIONS FOR SITE ACCESSIBILITY. IN ALL CASES THE MINIMUM REQUIREMENTS SHALL BE PROVIDED ON SITE TO ENSURE COMPLIANCE TO ALL REGULATIONS.

-KWIK TRIP STANDARD ENTRANCE HAS AUTOMATIC DOOR OPENER SYSTEM DESIGNED TO COMPLY WITH ALL ACCESS CODES AND LAWS. ENTRANCE DOORS FOR ACCESSIBLE ROUTES WILL HAVE A MINIMUM CLEAR OPENING OF 32".

-STORE FRONTS WILL PROVIDE FLUSH PAVEMENTS ALONG ACCESSIBLE ROUTES WITH PROTECTIVE SECURITY BOLLARDS INDICATED AND SPACED BETWEEN PARKING SURFACES AND BUILDING WALK PER PLAN.

-NO OBJECTS OR DISPLAYS SHOULD PROTRUDE INTO THE MINIMUM CLEAR SPACE OF THE ACCESSIBLE ROUTES TO THE STORE ENTRANCE. THIS WILL INCLUDE SEASONAL DISPLAY VENDING AREAS AS WELL AS OTHER OUTDOOR STORAGE UNITS FOR PROPANE AND ICE, ETC.

-PER A.D.A GUIDELINES- CLEAR WIDTH OF ACCESSIBLE ROUTES SHALL BE 36" AND PERMITTED TO BE REDUCED TO 32" FOR A LENGTH OF 24".

- ACCESS ISLES SERVING WHEEL CHAIR LIFTS OR CHAIR ACCESS FROM VEHICLES ARE REQIORED TO BE NEARLY LEVEL IN ALL DIRECTIONS TO PROVIDE SAFE TRANSFER OF WHEELCHAIRS TO AND FROM VEHICLES. THE EXCEPTION WOULD BE FOR DRAINAGE. MAXIMUM SLOPE FOR THE ACCESS ISLE IS 1:48. NO CURB RAMPS SHALL BE A PART OF THE ACCESS ISLE.

-IDENTIFICATION SIGNS SHALL INCLUDE THE INTERNATIONAL SYMBOL OF ACCESSIBILITY WITH THE DISIGNATION OF 1 "VAN ACCESSIBLE" IN EVERY 8 ACCESSIBLE SPACES ON SITE.

NOTES FOR CONVENIENCE STORE ACCESSIBLITY

AT LEAST 1 MPD(MULTI PRODUCT DISPENSER) COVERING ALL GRADES OF FUEL MUST BE ACCESSIBLE IN A 30X48" CLEAR LEVEL FLOOR AREA(CLF).

ALL PUMP CONTROLS SHALL BE < 48"(2010 STANDARD). WINDOW WASHER, PAPER TOWEL DISPENSER, LITERATURE, FIRE EXTINGUISHER, EMERGENCY FUEL STOPS, ETC. BE ACCESSIBLE 30"X48" CLF SPACE AND WITHIN A FORWARD OR SIDE APPROACH REACH RANGE.

PROVIDE ISA(INDUSTRY STANDARD ARCHITECTURE) AT EACH ACCESSIBLE FUEL POSITION ON FACE OF PUMP.

PROVIDE AT EACH ACCESSIBLE FUELING POSITION VISIBLE TO APPROACHING VEHICLES.

PROVIDE A SIGN AT EACH ACCESSIBLE FUELING POSITION WITH STORE TELEPHONE NUMBER, ADVISING AVAILABLE FUELING ASSISTANCE.

ANY PAY FUNCTION- i.e. AIR/VACUUM etc. ARE REQUIRED TO HAVE AN ACCESSIBLE ROUTE TO STORE ENTRANCE. CONTROLS SHALL BE ACCESSIBLE 30"X48" CLF SPACE AND WITHIN A FORWARD OR SIDE APPROACH REACH RANGE.

PLAN KEYNOTES

1. ACCESSIBLE STALLS
   A. STRIPING - 4" WIDE STALL LINES, USE HIGH VISIBILITY BLUE PAINT (UNLESS ALTERNATE COLOR SPECIFIED BY LOCAL OR STATE CODES). SPACES PROVIDED
   (2) 8'-0"x 20'-0" ACCESSIBLE PARKING WITH
   (1) 8'-0"x 20'-0" LOADING ZONE
   B. ACCESSIBLE FUELING POINT AND DISPENSER AND VALET. VALET AND KEY PAD ON PUMP SHALL CONFORM TO ADA REACH DIMENSIONS AS SHOWN IN DETAIL. SEE NOTES FOR CONVENIENCE STORE ACCESSIBILITY.

X ~~TRUNCATED DOME INSERT. COLOR: BURGUNDY. DIMENSIONS OF INSERT AS DETERMINED BY PATH WIDTH TO ENSURE COMPLETE DETECTION ZONE IN LINE OF TRAVEL.~~

3. PAVEMENTS FLUSH FOR ACCESSIBILITY.

4. PICNIC TABLE W/ ACCESSIBLE PLACEMENT PROVIDE OWNER. PROVIDE TRASH CONTAINER

5. ACCESSIBLE VACUUM & AIR INSTALLED WITH APPROPRIATED HEIGHTS. PARKING AREA SHALL MEET A.D.A DIMENSIONS FOR ACCESS AND SURFACE FOR WHEEL CHAIR ACCESS SHALL NOT EXCEED 1:48 SLOPE IN ALL DIRECTIONS. . SEE NOTES FOR CONVENIENCE STORE ACCESSIBILITY.

6. ACCESSIBLE ROUTE TO STORE

X ~~CITY SIDEWALK~~

X ~~ACCESS THRU APPROACH MAX. 2% CROSS SLOPE (1:48)~~

X ~~CURB RAMP- RAMP SLOPE MAX 1:12 SIDE FLARE SLOPE MAX. 1:10~~

811 Know what's below. Call before you dig.

NORTH
SCALE: 1" = 30'

30 15 0 30 60

PLOTTING NOTE: PLANS PLOTTED TO 11x17 SHEET SIZE ARE ½ SCALE- 1"=60'.

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Date 25JAN23 Reg. No. 19306

Signed Robert J. Mueller

ACCESSIBILITY PLAN

CONVENIENCE STORE 1266

-- LINO LAKES, MINNESOTA

NO.	DATE	DESCRIPTION
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-	22MAY05	SUBMITTAL
-	22MAY20	ROW WAYSITE SHIFT
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-	13FEB23	CONSTRUCTION

DRAWN BY

SCALE GRAPHIC

PROJ. NO. 22-1266

DATE 04-25-22

SHEET **SP2.2.3**

INSITES 22-0069 PM JV



GOPHER STATE ONE CALL

WWW.GOPHERSTATEONECALL.ORG
(800) 252-1166 TOLL FREE
(651) 454-0002 LOCAL

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 Guideline for the Collection and Depiction of Existing Subsurface Utility Data."

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Sunde Engineering, PLLC.
SUNDE ENGINEERING, PLLC.
10830 NESBITT AVENUE SOUTH
BLOOMINGTON, MINNESOTA 55437
(952) 881-3344 TELEPHONE
(952) 881-1913 FAX
www.sundecivil.com

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

Brian H. Mundstock

DATE: 02/13/23 REG. NO. 23468

STORM SEWER PLAN NORTH

CONVENIENCE STORE 1266

-- LINO LAKES, MINNESOTA

NO.	DATE	DESCRIPTION
-	05MAY22	SUBMITTAL
-	20MAY22	ROW / SITE SHUFF
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-	05AUG22	ROWD COMMENTS
-	13SEP22	BID SET / CITY COMMENTS
-	16NOV22	CITY COMMENTS
-	11JAN23	CITY COMMENTS
-	31JAN23	CITY COMMENTS
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DRAWN BY	
SCALE	GRAPHIC
PROJ. NO.	22-1266
DATE	04-25-22
SHEET	**SP3.0**

KWIK TRIP PM J.V.

MATCH LINE

EXISTING TREES TO REMAIN

66 LF 30" H.D.P.E. @ 0.58%

NEW APRON#10
INV. 889.00

RIP RAP TO POND BOTTOM

STORMWATER WET BASIN W/ LINER (see detail 11/SP6)
NWL = 889.00
100-YR HWL = 892.6
PERMANENT POOL VOL. REQ'D = 18,564 CF
PERMANENT POOL VOL. PROVIDED = 21,125 CF

EMERGENCY OVERFLOW SPILLWAY

EL. 893.0

25.0' MIN. BUFFER WIDTH

NEW APRON#11
INV. 886.00

NEW OUTLET STRUCTURE#1
SEE DETAIL SHEET SP3.2

30 LF 12" H.D.P.E.

38 LF 12" H.D.P.E. @ 1.3%

NEW APRON#12
INV. 888.50

UNGROUTED NATURAL ROCK RIPRAP

50' BUFFER WIDTH

NEW APRON#14
INV. 890.50

NEW APRON#13
INV. 889.00

UNGROUTED NATURAL ROCK RIPRAP

40 LF 12" H.D.P.E. @ 3.75%

25.0' BUFFER WIDTH

EDGE OF WETLAND
DELINEATION BY JACOBSON ENVIRONMENTAL

WETLAND

EXISTING GAS LINE

EXISTING TREES TO REMAIN

RIM:891.38
INV:874.89

RIM:892.59
INV:875.49

Δ=26°30'41"
R=1091.74
505.16

Δ=28°34'35"
R=1041.74
519.57

S11°05'36"E
393.10

RIM:890.69
INV:873.79

RIM:890.74
INV:884.04

RIM:889.67
INV:883.27

RIM:889.96
INV:883.46

10" PVC

PIN No. 30-31-22-22-0068
Owner: Bernard Fahey
Address: 231 Pine Hollow Dr.

PIN No. 30-31-22-22-0106
Owner: Pine Hollow Owners Assoc.
Address: 231A Pine Hollow Dr.

POND

PIN No. 30-31-22-22-0082
Owner: Sanjay Makwana
Address: 235 Pine Hollow Dr.

PIN No. 30-31-22-22-0083
Owner: Jon Latcham
Address: 237 Pine Hollow Dr.

PIN No. 30-31-22-22-0081
Owner: Heather Schmidt
Address: 233 Pine Hollow Dr.

PIN No. 30-31-22-22-0084
Owner: Pine Hollow Owners Assoc.
Address: 231 Pine Hollow Dr.

PIN No. 30-
Owner: CIN
Address: U

PINE HOLLOW DRIVE

(PUBLIC ROAD)
PINE HOLLOW DRIVE

OUTLOT B

BLOCK 3

BLOCK 4

WEST LINE OF GOV. LOT 1

CORPORATE LIMITS CITY OF LINO LAKES

STREET AND UTILITY EASEMENT PER DOC. NO. 993102 IN COUNTY ANOKA

EXISTING TREES TO REMAIN

CENTERLINE OF C.S.A.H. NO. 23 (LAKE DRIVE)

GOPHER STATE ONE CALL

WWW.GOPHERSTATEONECALL.ORG
(800) 252-1166 TOLL FREE
(651) 454-0002 LOCAL

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 Guideline for the Collection and Depiction of Existing Subsurface Utility Data."

NORTH
SCALE: 1" = 30'

30 15 0 30 60

KWIK TRIP

KWIK STAR

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

Sunde Engineering, PLLC.

SUNDE ENGINEERING, PLLC.
10830 NESBITT AVENUE SOUTH
BLOOMINGTON, MINNESOTA 55437
(952) 881-3344 TELEPHONE
(952) 881-1913 FAX
www.sundecivil.com

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

Brian H. Mundstock

Brian H. Mundstock
DATE: 02/13/23 REG. NO. 23468

STORM SEWER PLAN SOUTH

CONVENIENCE STORE 1266

LINO LAKES, MINNESOTA

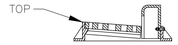
NO.	DATE	DESCRIPTION
-	05MAY22	SUBMITTAL
-	20MAY22	ROW / SITE SHIFT
-	27JUN22	CITY COMMENTS
-	05AUG22	RCWD COMMENTS
-	13SEP22	BID SET / CITY COMMENTS
-	16NOV22	CITY COMMENTS
-	11JAN23	CITY COMMENTS
-	31JAN23	CITY COMMENTS
-	09FEB23	ANOKA COUNTY COMMENTS
-	13FEB23	CONSTRUCTION

DRAWN BY
SCALE GRAPHIC
PROJ. NO. 22-1266
DATE 04-25-22
SHEET **SP3.1**

KWIK TRIP PM J.V.

STORM DRAINAGE:

1. Unless otherwise indicated, use reinforced, precast, concrete maintenance holes and catchbasins 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 C443. These joints are normally used in sewers to hold infiltration and exfiltration to a practical minimum and are adequate for hydrostatic heads up to 30'. The inside barrel diameter shall not be less than 48 inches.
2. Install catchbasin castings with specified top elevation at the front rim.

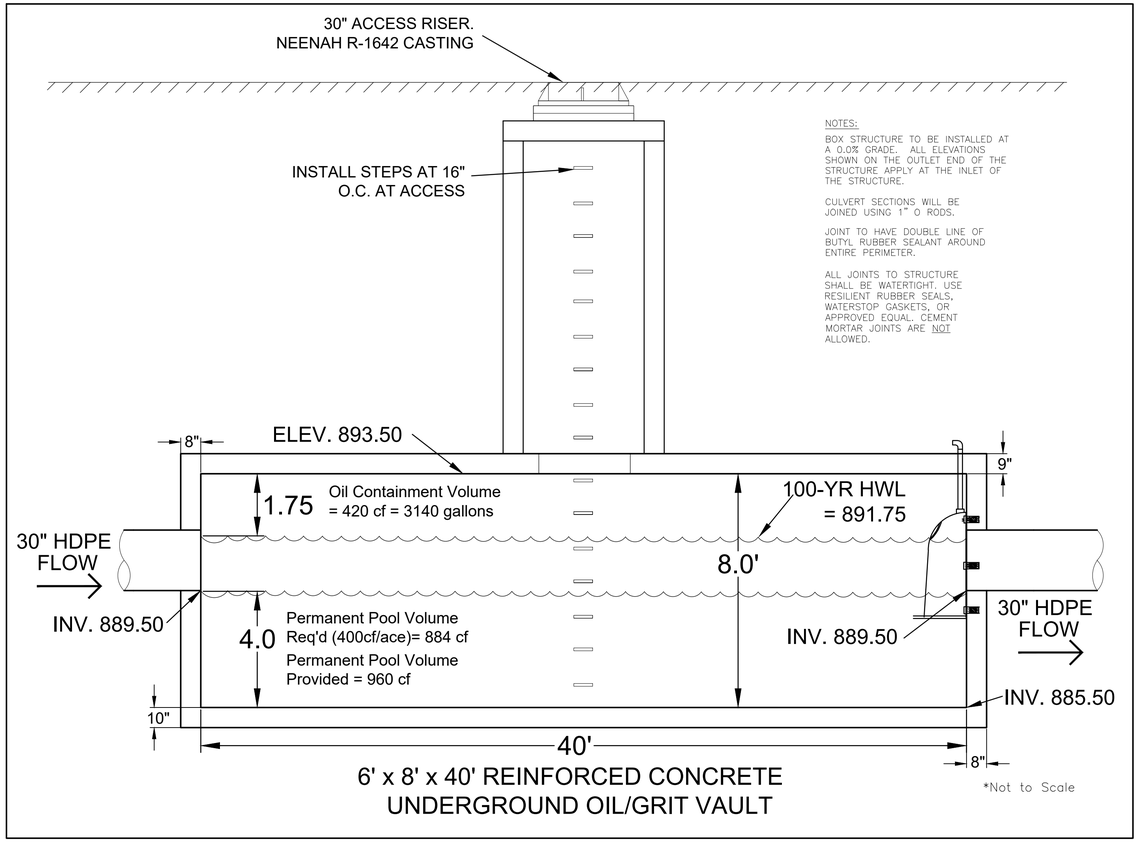


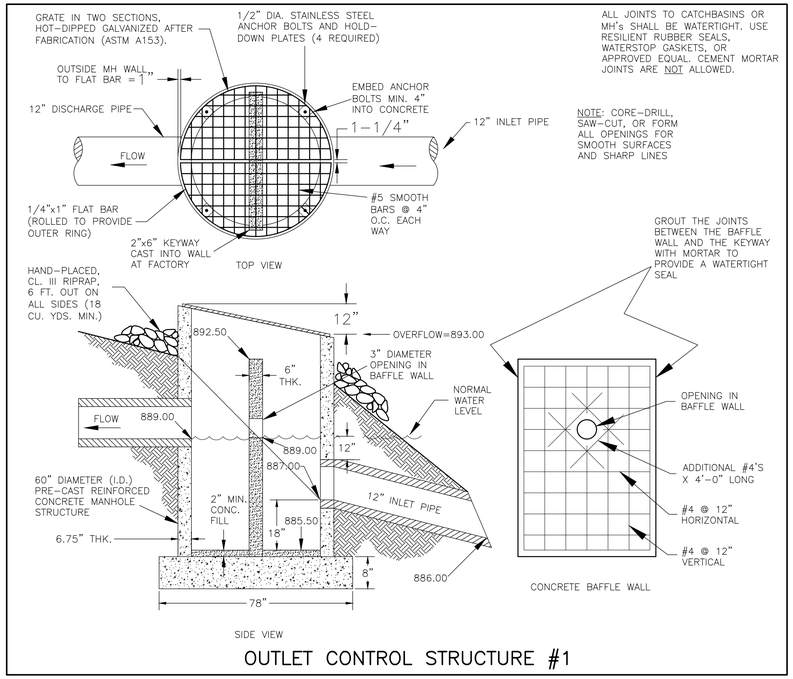
3. All joints and connections in the storm sewer system shall be gastight or watertight. Use flexible compression joints to make watertight connections to manholes in accordance with Minnesota Rules part 4714.0719.6. Where permitted by the administrative authority, approved resilient rubber seals or waterstop gaskets may be used in order to make watertight connections to manholes, catchbasins, and other structures. Use Fernco "Concrete Manhole Adaptors" or "Large Diameter Waterstops", Press-Seal "Waterstop Grouting Rings", or approved equal. Cement mortar joints alone are <u>not</u> allowed unless making repairs or connections to existing lines having such joints.
4. The building sewer starts 2 feet outside of the building. See Uniform Plumbing Code (UPC) part 715.1. Material installed within 2 feet of the building must be of materials approved for use inside of or within the building.
5. The exterior storm water piping must comply with the following requirements: (A) Double wyes may not be used for drainage fittings in the horizontal position (see Minnesota Rules, Chapter 4714, Section 310.5), because proper pipe slope cannot be maintained on both of the lateral branches. (B) Changes in direction in drainage piping must be made by appropriate use of wyes and bends (see Minnesota Rules, Chapter 4714, Section 706.0). When connecting any vertical drop to a horizontal run, use a wye and a 1/8 bend (45 deg), or a sanitary combo. A sanitary combo is a combination wye and a 1/8 bend combined in a single fitting. The reason is to form a long radius bend in order to insure that the waste is directed in the downstream direction as it enters the horizontal run. Tees are not allowed where the direction of flow changes from either vertical to horizontal or horizontal to horizontal.
6. <u>PVC Pipe (Outside of the Building)</u>: Use solid-core, Schedule 40 Polyvinyl Chloride (PVC) Plastic Pipe for all designated PVC storm sewer services outside of the building. The PVC pipe shall meet or exceed the industry standards and requirements as set forth by the American Society for Testing and Materials (ASTM) D1785 and D2665. Fittings must comply with ASTM D1866, D2665, or F794. Joints must be approved mechanical or push-on utilizing an elastomeric seal. Use of solvent cement joints is allowed for building services. Solvent cement joints in PVC pipe must include use of ASTM F656 <u>purple</u> primer and cement in accordance with Uniform Plumbing Code (UPC), part 605.13.2. Pipe with solvent cement joints shall be joined with PVC cement conforming to ASTM D2564. The installation must comply with ASTM D2321, which requires open-trench installation on a continuous granular bed.
7. <u>Cleanouts</u>: Install cleanouts on all roof drains. Cleanouts shall be installed at every wye, sweep, and bend. Install cleanouts on all storm sewer services in accordance with UPC part 719.0 and 1101.12. 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. 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. Provide cleanouts at the base of the roof leader connections at the gas island pump stations.
8. <u>Fittings</u>: Provide directional fittings for the storm piping serving the gas island pump stations. All changes in direction of flow in drain piping shall be made by the appropriate use of 45 degree wyes, long or short sweep quarter bends, sixth, eighth, or sixteenth bends, or by a combination of these or other equivalent fittings.
9. <u>RCP</u>: Reinforced concrete pipe (RCP) and fittings shall conform to ASTM C76, Design C, with circular reinforcing for the class of pipe specified. Use Class IV RCP for pipes 21" and larger. Use Class V RCP for pipes 18" and smaller. Joints shall be made up of concrete surfaces with a groove on the spigot for an O-ring rubber gasket (also referred to as a confined O-ring type joint) in accordance with ASTM C361. These joints are normally used in gravity sewers where exceptional tightness is required. This type of joint provides excellent inherent water tightness in both the straight and deflected position and meets all the joint requirements of ASTM C443.
10. <u>RC Aprons</u>: Install a reinforced concrete apron on the free end of all daylighted RCP storm sewer pipes. Tie the last three sections (including apron) of all daylighted RCP storm sewer with a minimum of two tie bolt fasteners per joint. This requirement applies to both upstream and downstream pipe inlets and outlets. For concrete culverts, tie all joints. Ties to be used only to hold the pipe sections together, not for pulling the sections tight. Nuts and washers are not required on inside of 675 mm (27 inch) or less diameter pipes.
11. <u>Grates on horizontal pipes</u>: Install safety-trash grates on all horizontal inlets/outlets greater than 6 inches in diameter. The grates shall be placed so that the rods or bars are not more than 3 inches downstream of the inlet/outlet. Rods or bars shall be spaced so that the openings do not permit the passage of a 6-inch sphere.
12. <u>Testing</u>: Test all portions of storm sewer that are within 10 feet of buildings, within 10 feet of buried water, lines, within 50 feet of water wells, or that pass through soil or water identified as being contaminated in accordance with the Minnesota Rules part 4714.1109 and UPC part 1109.0. Test all flexible storm sewer lines for deflection after the sewer line has been installed and backfill has been in place for at least 30 days. No pipe shall exceed a deflection of 5%. If the test fails, make necessary repairs and retest.
13. <u>Draintile</u>: In accordance with Minnesota Rules part 4714.1102.5, use perforated polyvinyl chloride PVC (ASTM D2729) or corrugated polyethylene PE (ASTM F405) on all draintile 3-inches to 6-inches in diameter. Install draintile with high permittivity circular knit polymeric filament filter sock per ASTM D6707-01. MnDot 3733 Type I sewn seam non-woven fabric shall not be used. Draintile pipe directly connected to the storm sewer is classified as storm sewer. Draintile inlet elevations to the catch basins must be above the storm sewer outlet elevations.
14. Use Neenah R-3067-DR/DL casting with curb box, or approved equal, on CB #2, CB#3, CB#4, CB#5, CB#6, CB#7 and CB #8. Casting shall include the <u>"DUMP NO WASTE, DRAINS TO FRESH WATER."</u> environmental notice.
14. Use Neenah R-3067-C casting without curb box, or approved equal, on CB #11.
15. Use Zurn Z886 trench drain model 8606N with black acid resistant epoxy coated ductile grate - Class C for proposed trench drain.
16. Use Neenah Foundry Co. R-1642 casting with self-sealing, solid, type B lid, or approved equal, on all storm sewer maintenance holes. Covers shall bear the "Storm Sewer" label.
17. At all slotted drain locations, use slotted drain made from 12-inch diameter, 14-gage, Contech HEL-COR® aluminized steel type 2 (AASHTO M274) corrugated pipe, or approved equal. Use Contech modified Hugger® slotted drain bands, or approved equal, in order to secure the pipe and prevent infiltration of backfill. Place the slotted drain in a contoured trench, level it to grade, and backfill with concrete to the top of the finish course. The top of the grate should be recessed approximately 1/4-inch below the finished grade. Bevel the concrete corners along the edge of the grate.
18. <u>Trace Wire</u>: Install locating wires on all conductive and non-conductive storm sewer, sanitary sewer, and water lines in accordance with the Minnesota Rural Water Association (MRWA) Trace Wire Specification Guide and Details (www.mrwa.com/PDF/TracerWireSpecGuideFinalweb9.pdf). Use #12 HDPE-insulated copper-clad steel wire rated for underground service. The color of the insulating jacket shall be as follows: ground=red, storm sewer=green, sanitary sewer=green, and water lines=blue. Install the wire on the bottom side of the pipe below the spring line. Fasten the wire to the pipe with tape or plastic ties at 5' intervals. Do not wrap the trace wire around the corresponding utility. Do not connect the trace wire to existing conductive utilities. Use Copperhead Dryconn 3-Way or Locking Snake Bite connectors rated for underground direct bury applications or approved equal at all crossings or service connections. Twist on connectors are not allowed. Trace wire must be properly grounded at all dead ends and services. Install grade-level/in-ground trace wire access boxes and drive-in magnesium grounding anodes at all dead ends, services, and fire hydrants. Trace wire access boxes shall be color coded as follows: storm sewer=green, sanitary sewer=green, and water lines=blue.
19. <u>Detectable Warning Tape</u>: Install detectable underground warning tape directly above all underground utilities at a depth of 457 mm (18 inches) below finished grade, unless otherwise indicated. Underground warning tape shall be 3-inches wide with a minimum 5.0 mil overall thickness. Tape shall be manufactured using a 0.8 mil clear virgin polypropylene film, reverse printed and laminated to a 0.35 mil solid aluminum foil core, and then laminated to a 3.75 mil clear virgin polyethylene film. The aluminum backing makes underground assets easy to find using a non-ferrous locator. Tape shall be printed using a diagonally striped design for maximum visibility and meet the APWA Color-Code standard for identification of buried utilities. Use Pro-Line Safety Products (www.prolinesafety.com) detectable marking tape or approved equal.
20. Install anti-seepage diaphragms at the locations indicated on the plan in accordance with MNDOT Standard Specification 2501 and MNDOT Standard Plate No. 3146C.
21. In no case shall water from roofs be allowed to flow upon the public sidewalk (see UPC Section 1101.1). This shall include the discharge from all rainwater conductors, including overflow roof drains.
22. 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 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.
23. 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. Field verify that there is positive drainage at the outfall location. 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.
24. Line ponds with 2' thick impervious clay liner per detail 11/SP6.
25. Clean sediment and debris from sewers, sumps and stormwater basins prior to final owner acceptance.
26. Televise all existing lines prior to connection.
27. Provide a final storm water management report that will serve to verify that the intent of the approved storm water management design has been met. The report shall include record drawings, measurements, and photographic evidence of the as-built storm water management system. The report shall substantiate that all aspects of the original design have been adequately provided for by the construction of the project.

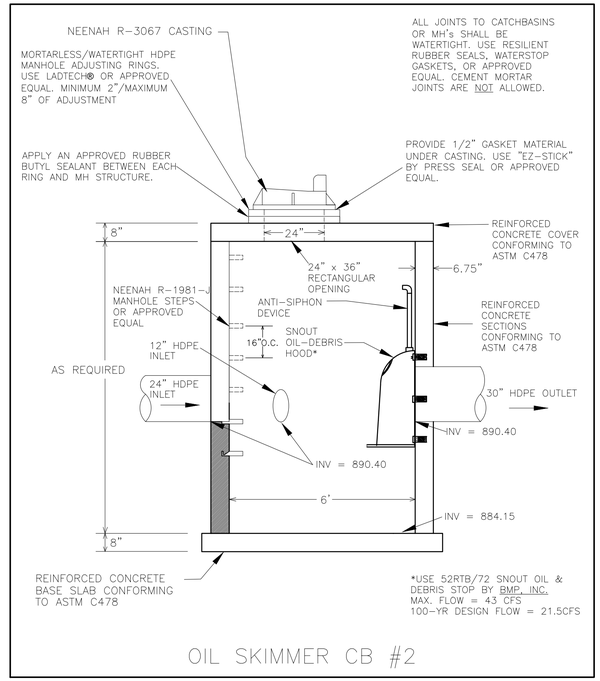
28. <u>Roof Drains</u>: The MN Department of Labor and Industry (MnDOLI) does <u>not</u> approve Insert-A-Tees for connection of PVC to dual-wall HDPE. So roof drains <u>must</u> connect via PVC to PVC or PVC to a MH.

HDPE REQUIREMENTS:

1. Install dual-wall, smooth interior, corrugated high-density polyethylene (HDPE) pipe at locations indicated on the plan. High-density polyethylene (HDPE) storm sewers must meet ASTM F714 (see Minnesota Rules, Chapter 4714 and Installation Standard 1).
2. Dual-wall, smooth interior, corrugated high-density polyethylene (HDPE) pipe shall conform to the requirements of AASHTO M252 for pipe sizes 4-inch to 10-inch diameter. Dual-wall, smooth interior, corrugated high-density polyethylene (HDPE) pipe shall conform to the requirements of ASTM F2306 (virgin PE material) for pipe sizes 12-inch to 60-inch diameter.
3. All fittings must comply with ASTM Standard D3212.
4. <u>Water-tight joints must be used at all connections including structures in conformance with ASTM F2510</u>.
5. HDPE pipes must be listed and labeled.
6. HDPE pipes must be installed with a minimum 10-feet separation from water piping and may not cross above water service lines (see UPC Section 720.1).
7. HDPE pipes must not be installed within 10 feet of building. The connection between HDPE and a different pipe material must be made by means of an approved transition coupling for the specific application.
8. HDPE pipe connections into all concrete structures must be made with water tight materials utilizing Nyoplast "Manhole Adaptors" along with Press-Seal or Kor-N-Seal "Watertight Connector", Cast-A-Seal "Precast Watertight Connector", or approved equals. Where the alignment precludes the use of the above approved watertight methods, Conseal 231 WaterStop sealant, or approved equal will only be allowed as approved by the Administrative Authority.
9. HDPE pipe installation must be open-trench on a continuous granular bed per ASTM D2321 and manufacturer's installation instructions. All sections of the corrugated HDPE pipe shall be coupled in order to provide water tight joints.
10. 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.







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

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

Brian H. Mundstock
DATE: 02/13/23 REG. NO.: 23468

STORM SEWER NOTES AND DETAILS

CONVENIENCE STORE 1266

-- LINO LAKES, MINNESOTA

NO.	DATE	DESCRIPTION
-	05MAY22	SUBMITTAL
-	20MAY22	ROW / SITE SHIFT
-	27JUN22	CITY COMMENTS
-	05AUG22	RCWD COMMENTS
-	13SEP22	BID SET / CITY COMMENTS
-	16NOV22	CITY COMMENTS
-	11JAN23	CITY COMMENTS
-	31JAN23	CITY COMMENTS
-	09FEB23	ANOKA COUNTY COMMENTS
-	13FEB23	CONSTRUCTION

DRAWN BY	
SCALE	GRAPHIC
PROJ. NO.	22-1266
DATE	04-25-22
SHEET	**SP3.2**

KWIK TRIP PM: J.V.

GOPHER STATE ONE CALL

WWW.GOPHERSTATEONECALL.ORG
(800) 252-1166 TOLL FREE
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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 Guideline for the Collection and Depiction of Existing Subsurface Utility Data."

PRESSURE TAP CONNECT TO EX. 16" WATERMAIN. FIELD VERIFY SIZE, ELEV. AND LOCATION PRIOR TO START OF CONSTRUCTION.

RESTORE PUBLIC RIGHT OF WAY TO EXISTING GRADE WITHIN ONE WEEK OF REMOVAL.

6" GATEVALVE

EX. FIRE HYDRANT

COORDINATE NEW UG TELEPHONE SERVICE WITH UTILITY COMPANY

COORDINATE NEW UG ELECTRIC SERVICE WITH UTILITY COMPANY

COORDINATE NEW UG GAS SERVICE WITH UTILITY COMPANY

TRANSFORMER AND DISCONNECT PAD LOCATION

6" GATEVALVE, 90° BEND,6" HYDRANT LEAD AND FIRE HYDRANT

GAS SERVICE AND METER LOCATION

6"X4" TEE

6" TEE

TELEPHONE SERVICE AND METER LOCATION

CAR WASH

6" PVC SAN. S. INV. @ BLDG = 896.00

FIRE DEPARTMENT CONNECTION

6" FIRE PROTECTION WATER SERVICE AND METER LOCATION.

4" DOMESTIC WATER SERVICE AND METER LOCATION.

6" GATEVALVE

4" GATEVALVE

CONVENIENCE STORE FFE=904.0

ELECTRIC SERVICE AND METER LOCATION

SAN. S. CLEANOUT INV. = 895.05

45 LF 6" SCH 40 PVC SAN. S. @ 2.1%

6" C900 PVC WATER. INV. = 894.75

6" PVC SAN. S. INV. @ BLDG = 896.00

4" C900 PVC WATER. INV. = 894.92

16 LF 6" PVC SAN. S. @ 12.1%

47 LF 6" SCH 40 PVC SAN. S. @ 2.1%

SAN. S. CLEANOUT INV. = 892.36

GREASE TRAP. REFER TO PLUMBING PLANS.

A | SAN. S. MH
TOP = 903.62
INV. = 894.06

81LF 6" PVC SAN. S. @ 2.1%

car wash stacking

SAN. S. CLEANOUT INV. = 890.66

79LF 6" PVC SAN. S. @ 2.1%

98LF 6" PVC SAN. S. @ 2.1%

97LF 6" PVC SAN. S. @ 2.1%

SAN. S. CLEANOUT INV. = 886.94

SAN. S. CLEANOUT INV. = 889.00

B | SAN. S. MH
TOP = 893.95
INV. = 884.90

66LF 6" PVC SAN. S. @ 2.1%

SAN. S. CLEANOUT INV. = 883.50

62LF 6" PVC SAN. S. @ 2.1%

C | SAN. S. MH
TOP = 891.80
INV. = 882.20

62LF 6" PVC SAN. S. @ 12.9%

PROVIDE ADVANCE WARNING AND COORDINATE ROAD CLOSURE AND TRAFFIC CONTROL WITH CITY OF LINO LAKES AND ANOKA COUNTY FOR SANITARY SEWER CONNECTION. SEE TRAFFIC CONTROL PLAN FOR ADDITIONAL DETAILS.

RESTORE PUBLIC RIGHT OF WAY, REPLACE CURB AND GUTTER WITH EARLY STRENGTH CONCRETE, AND REPLACE PAVEMENT TO EXISTING SECTION AND GRADE WITHIN ONE WEEK OF REMOVAL.

CORE-DRILL CONNECT TO EX. SAN. S. MH AT INV. ELEV. = 874.20. FIELD VERIFY SIZE, ELEVATION, AND LOCATION PRIOR TO START OF CONSTRUCTION.

LAKE DRIVE (C.S.A.H. NO. 23)

FRONTAGE ROAD

(PUBLIC RIGHT OF WAY - STREET NOT BUILT)

HIGHWAY EASEMENT PER DOC. NO. 1314226
RESTRICTED ACCESS PER DOC. NO. 1314226

STREET AND UTILITY EASEMENT PER DOC. NO. 1370211

TRANSMISSION LINE EASEMENT PER DOC. NO. 183907

SETBACK

Δ=30°02'14"
R=768.51
402.89

Δ=30°02'14"
R=818.51
429.10

"NO BUILDINGS OBSERVED"

EXISTING TREES TO REMAIN

"TO REMAIN

NORTHERLY LIMITS OF TREE INVENTORY

HODGSON ROAD (C.S.A.H. NO. 14)

(PUBLIC ROAD)

RIM:892.90 INV: 885.95

RIM:893.04 INV: 885.90

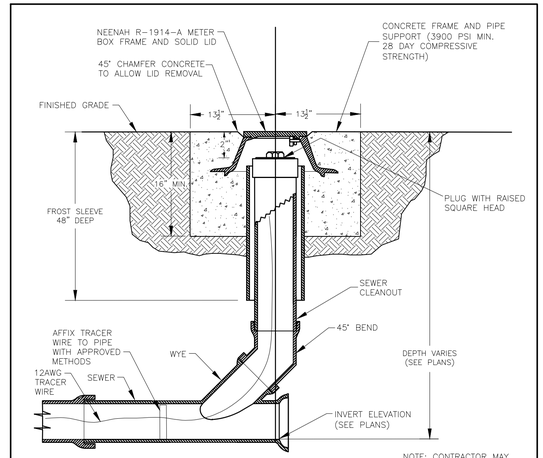
RIM:893.06 INV: 885.81

RIM:892.28 INV: 886.03

RIM:890.69 INV: 873.79

NORTH
SCALE: 1" = 30'
30 15 0 30 60

SEWER CLEANOUT



NOTE: CONTRACTOR MAY PLACE EITHER CIRCULAR OR SQUARE CONCRETE FRAME AND PIPE SUPPORT

KEYNOTES:

① – (AT BLDG SERVICE CROSSINGS) LOWER WATERMAIN TO PROVIDE 18" MINIMUM CLEARANCE BETWEEN SEWER AND WATER AT CROSSING. SEWER PIPE WITHIN 10 FEET OF THE CROSSING MUST BE CONSTRUCTED OF MATERIALS APPROVED FOR USE WITHIN A BUILDING IN ACCORDANCE WITH MN RULES 4714. WATER SERVICE SHALL NOT CONTAIN ANY JOINTS OR CONNECTIONS WITHIN 10 FEET OF CROSSING. TEST ALL PORTIONS OF THE STORM SEWER SYSTEM WITHIN 10 FEET OF THE CROSSING IN ACCORDANCE WITH MN RULES 4714.1109.

STANDARD SANITARY SEWER MH

NOTE: IF A SEWER LINE IS CONNECTED TO A MH MORE THAN 24" ABOVE THE INVERT OF THE OUTGOING LINE, THEN THE CONNECTION SHALL BE BY MEANS OF AN OUTSIDE DROP.

NEENAH FOUNDRY CO. R-1642 CASTING WITH SELF-SEALING, SOLID, TYPE B LID, OR APPROVED EQUAL. COVER SHALL BEAR THE "SANITARY SEWER" LABEL.

PROVIDE 1/2" GASKET MATERIAL UNDER CASTING. USE "EZ-STICK" BY PRESS SEAL OR APPROVED EQUAL.

INSTALL FLEXIBLE WATERTIGHT FRAME/CHIMNEY SEAL IN ORDER TO SEAL FROM THE CAST IRON FRAME DOWN TO THE CONE. USE INTERNAL/EXTERNAL ADAPTER SEAL MANUFACTURED BY ADAPTOR, INC. OR APPROVED EQUAL.

MORTARLESS/WATERTIGHT HDPE MANHOLE ADJUSTING RINGS. USE LADTECH® OR APPROVED EQUAL. MINIMUM 2"/MAXIMUM 8" OF ADJUSTMENT

SHAPE CHANNELS TO HAVE SMOOTH, ROUND INVERTS.

APPLY AN APPROVED RUBBER BUTYL SEALANT BETWEEN EACH RING AND MH STRUCTURE.

PROVIDE "O"-RING RUBBER GASKETS PER ASTM C-443 ON MH ALL JOINTS. INSTALL EZ-STIK PREMIUM BUTYL SEALEANT BETWEEN ALL MH JOINTS, AS WELL AS A MACWRAP EXTERNAL MASTIC SEALS ON THE EXTERIOR OF ALL MH JOINTS.

12" WIDE POLYPROPYLENE ENCASED STEPS, ON DOWNSTREAM SIDE.

PROVIDE WATERTIGHT PIPE CONNECTIONS. FLEXIBLE SEALS/GASKETS SHALL MEET ASTM C-293 & C-443 AND ALLOW 10-DEGREES OF DEFLECTION IN ANY DIRECTION.

REINFORCED PRECAST CONCRETE BASE. MINIMUM SLAB THICKNESS = 6" FOR 14' DEPTH. INCREASE THICKNESS 1" FOR EVERY 4' OF DEPTH GREATER THAN 14'.

PRECAST/REINFORCED ECCENTRIC CONE AND RISER SECTIONS AS REQUIRED BY ASTM C-478.

USE ONLY PRECAST SECTIONS. NO BRICK OR BLOCK.

FOR CONNECTION TO EXISTING STRUCTURES, CORE-DRILL OPENING AND PROVIDE FLEXIBLE WATERTIGHT CONNECTOR.

SLOPE BENCHES 2"/FT.

BASE AND WALLS ARE MONOLITHIC

FORM GROUT TO SLOPE TO CENTER TROUGH.

6" THICK SAND OR FOUNDATION MATERIAL

UNDISTURBED SOIL OR COMPACTED SUBGRADE

64" MINIMUM

BENCH=1/2 DIA. OF PIPE

PLAN

SECTION A-A

SECTION B-B

LIFTING HOLES WHICH PENETRATE THROUGH SECTION WALLS ARE NOT PERMITTED.

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

Sunde Engineering, PLLC.
SUNDE ENGINEERING, PLLC.
10830 NESBITT AVENUE SOUTH
BLOOMINGTON, MINNESOTA 55437
(952) 881-3344 TELEPHONE
(952) 881-1913 FAX
www.sundecivil.com

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

Brian H. Mundstock

Brian H. Mundstock
DATE: 02/13/23 REG. NO.: 23468

UTILITY PLAN

CONVENIENCE STORE 1266

-- LINO LAKES, MINNESOTA

NO.	DATE	DESCRIPTION
-	05MAY22	SUBMITTAL
-	20MAY22	ROW / SITE SHIFT
-	27JUN22	CITY COMMENTS
-	05AUG22	RCWD COMMENTS
-	13SEP22	BID SET / CITY COMMENTS
-	16NOV22	CITY COMMENTS
-	11JAN23	CITY COMMENTS
-	31JAN23	CITY COMMENTS
-	09FEB23	ANOKA COUNTY COMMENTS
-	13FEB23	CONSTRUCTION

DRAWN BY
SCALE GRAPHIC
PROJ. NO. 22-1266
DATE 04-25-22
SHEET **SP4.0**

KWIK TRIP PM JV

GENERAL:

1. Existing boundary, location, topographic, and utility information shown on this plan is from a field survey by E.G Rud and Sons, Inc. dated 2/14/22. The Engineer is not responsible for inaccuracies related to the survey information.

2. Perform all construction work in accordance with State and Local requirements.

3. Perform all construction activity in accordance with the Minnesota Pollution Control Agency GENERAL STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY issued August 1, 2018 and all subsequent amendments thereto.

4. Comply with all applicable local, state, and federal safety regulations. Comply with the work safety practices specified by the Occupational Safety and Health Administration (OSHA). OSHA prohibits entry into "confined spaces," such as manholes and inlets (see 29 CFR Section 1910.146), without undertaking certain specific practices and procedures. Bench or slope sidewalls in order to provide safe working conditions and stability for the placement of engineered fill. Perform excavations in accordance with the requirements of O.S.H.A. 29 CFR, Part 1926, Subpart P, Excavations. The Contractor is responsible for naming the "Competent Individual" in accordance with CFR 1926.6. Sloping or benching for excavations greater than 20 feet deep must be approved by a registered professional engineer (www.osha.gov).

5. Safety is solely the responsibility of the Contractor, who is also solely responsible for the construction means, methods, techniques, sequences or procedures, and for safety precautions and programs in connection with the Work.

6. The Engineer shall not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work. The Engineer's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures.

7. Examine all local conditions at the site, and assume responsibility as to the grades, contours, and the character of the earth, existing conditions, and other items that may be encountered during excavation work above or below the existing grades. Review the drawings, specifications, and geotechnical report covering this work and become familiar with the anticipated site conditions.

8. Refer to the architectural plans for building and stoop dimensions, site layout and dimensions, pavement sections and details, striping, and other site features.

9. A licensed surveyor shall perform construction staking. The Contractor shall provide and be responsible for the staking. Verify all plan and detail dimensions prior to construction staking. Stake the limits of walkways and curbing prior to valvebox, maintenance hole, and catchbasin installation. Adjust valvebox and maintenance hole locations in order to avoid conflicts with curb and gutter. Adjust catchbasin locations in order to align properly with curb and gutter.

10. Provide temporary fences, barricades, coverings, and other protections in order to preserve existing items to remain, and to prevent injury or damage to person or property.

11. Provide all traffic control required in order to construct the proposed improvements. Traffic control design and associated government approvals are the responsibility of the Contractor. Comply with local authorities and the latest version of the Minnesota Manual on Uniform Traffic Control Devices (MMUTCD), including the Field Manual for Temporary Traffic Control Zone Layouts. If the temporary traffic control zone affects the movement of pedestrians, provide adequate temporary pedestrian access and walkways. If the temporary traffic control zone affects an accessible and detectable pedestrian facility, maintain accessibility and detectability along the alternate pedestrian route in accordance with the provisions for pedestrian and worker safety contained in Part 6 of the MMUTCD.

12. Connect to existing sanitary sewer MH's by coredrilling. Connect to existing storm sewer MH's by either sawcutting or coredrilling. Use saws or drills that provide water to the blade. Meet all City standards and specifications for the size 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.

13. Completely remove existing concrete and masonry structures that are located within the proposed building and future building expansion areas. All other existing sewer and watermain pipes that are to be abandoned shall either be removed, or completely filled with sand or controlled low strength material (CLSM) also known as flowable concrete fill. Bulkhead ends of the pipe segment to be decommissioned with concrete. All other existing sanitary sewer and storm sewer structures that are to be abandoned in place shall be abandoned as follows: (1) remove castings, rings, and top sections, (2) bulkhead any pipe openings, (3) break two 4-inch diameter holes in the barrel at the bottom of the structures for drainage and cover the holes with geotextile filter fabric, and (4) fill the structures with sand or CLSM.

14. Testing and Inspections: All plumbing installations, including water and sewer services, must be tested and inspected in accordance with the requirements of the Minnesota Plumbing Code (Minnesota Rules Chapter 4714). Coordinate testing and inspection with the State Health Department and the City Public Works Department. No drainage or plumbing work may be covered prior to completing the required tests and inspections.

15. Coordinate building utility connection locations at 2 ft. out from the proposed building with the interior Plumbing Contractor prior to construction. Verify water and sewer service locations, sizes, and elevations with the Mechanical Engineer prior to construction. Coordinate construction and connections with the Mechanical Contractor.

16. 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 Guideline for the Collection and Depiction of Existing Subsurface Utility Data" by the FHA.

17. 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.

18. The Contractor is solely responsible for all utility locates. Contact utility companies for locations of all public and private utilities within the work area prior to beginning construction. Contact GOPHER STATE ONE CALL at (651) 454-0002 in the Minneapolis/St. Paul metro area, or 1-800-252-1166 elsewhere in Minnesota for exact locations of existing utilities at least 48 working hours (not including weekends and holidays) before beginning any construction in accordance with Statute 216D. Obtain ticket number and meet with representatives of the various utilities at the site. Provide the Owner with the ticket number information. Gopher State One Call is a free service that locates municipal and utility company lines, but does not locate private utility lines. Use 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.

19. 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.

20. 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.

21. When working near existing telephone or electric poles, brace the poles for support. When working around existing underground utilities that become exposed, provide sufficient support in order to prevent excessive stress on the existing piping. The location and preservation of existing underground utilities is solely the responsibility of the Contractor.

22. Temporary support systems are the responsibility of the Contractor, who is also solely responsible for the construction means, methods, techniques, sequences or procedures, and for safety precautions and programs in connection with the temporary support systems. Temporary support systems include, but are not limited to, shoring, sheeting, bracing, anchorages, excavation support walls, directional boring, auger jacking, soil stabilization, and other methods of protecting existing improvements.

23. Arrange for and secure suitable disposal areas off-site. Dispose of all excess soil, waste material, debris, and all materials not designated for salvage. Waste material and debris includes trees, stumps, pipe, concrete, asphaltic concrete, cans, or other waste material from the construction operations. Obtain the rights to any waste area for disposal of unsuitable or surplus material either shown or not shown on the plans. All work in disposing of such material shall be considered incidental to the work. All disposal must conform to applicable solid waste disposal permit regulations. Obtain all necessary permits at no cost to the Owner.

24. Store and protect existing site features that need to be removed and replaced in connection with the Work. Replace damaged or stolen site features at no additional cost to the Owner.

25. Straight line saw-cut existing bituminous or concrete surfacing at the perimeter of pavement removal areas. Use saws that provide water to the blade. Do not allow the slurry produced by this process to be tracked outside of the immediate work area or discharged into the sewer system. Tack and match all connections to existing bituminous pavement.

26. Relocate overhead power, telephone, and cable lines as required. Seal and report any existing unused on-site wells and septic systems in accordance with Minnesota Department of Health (MDH) requirements. Provide the MDH with a Well and Boring Sealing Record, or certify in writing that there are no unused wells on the property.

27. 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 and labor in order to perform the construction in accordance with the construction documents, specifications, and regulatory agencies.

28. Reconstruct driveways and patch street to match existing pavement section and grade. Sod right-of-way. Restore the public right-of-way at temporary construction entrance locations. 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.

29. Cut turf edges in order to allow for a uniform straight edge at locations where new sod meets existing turf. No jagged or uneven edges are allowed. Remove topsoil as required at joints between existing and new turf in order to allow the surface of the new sod to be flush with the existing.

30. Document existing conditions (photographs, video, field survey, etc.) in order to enable restoration to match existing conditions and in order to ensure that restored areas have positive drainage similar to existing conditions.

31. Provide positive drainage away from buildings at all times. Provide and maintain temporary drainage throughout construction until the permanent drainage system and structures are in place and operational. Install temporary ditches, piping, pumps, or other means as necessary in order to insure proper drainage at all times. Provide low points at building pads or roadways with positive outfalls. Do not block drainage from or direct excess drainage to adjacent property.

32. Protect all structures and landscaping not labeled for demolition from damage during construction. Provide protective coverings and enclosures as necessary to prevent damage to existing work that is to remain. Existing work to remain may include items such as trees, shrubs, lawns, sidewalks, drives, curbs, utilities, buildings and/or other structures on or adjacent to the site. Provide temporary fences and barricades as required for the safe and proper execution of the work and the protection of persons and property. Provide building surveys and seismic monitoring in locations where demolition, excavation, underpinning, pile driving, compacting, or similar work is to be performed adjacent to or in the vicinity of existing structures. Return any on-site or off-site areas disturbed directly or indirectly due to construction to a condition equal to or better than the existing condition.

33. Protect sub grades from damage by surface water runoff.

34. Full design strength is not available in bituminous pavement areas until the final lift of asphalt is compacted into place. Protect pavement areas from overloading by delivery trucks, construction equipment, and other vehicles.

35. 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.

36. Adjust all public and private structures including curb stops, valve boxes, maintenance hole castings, catchbasin castings, cleanout covers, and similar items to finished grade. Comply with the requirements of each structure's owner. Structures being reset in paved areas must meet the owner's requirements for traffic loading.

37. Grading for all sidewalks and accessible routes, including driveway crossings, shall conform to current State and Federal Americans with Disabilities Act (ADA) requirements. In accordance with ADA Section 403.3, slopes shall not exceed cross slope or 5% in the direction of travel. Sidewalk access to external building doors shall be ADA compliant. Accessible parking stalls shall not exceed 2% slope in any direction.

38. Curb ramps on accessible routes shall comply with sections 405 and 406 of the Americans with Disabilities Act Accessibility Guidelines (ADAAG).

39. Accessible parking spaces shall be provided in accordance with Minnesota Rules 1341.0502 A117.1 Section 502.

40. 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. Field verify that there is positive drainage at the outfall location. 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.

41. Obtain and pay for all permits, tests, inspections, etc. required by agencies that have jurisdiction over the project including the NPDES permit from the State. 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.

42. Measure pipe lengths from center-of-structure to center-of-structure, or to the end of aprons.

43. Obtain permits from the City for work in the public right-of-way.

44. Refer to the geotechnical report by the Soils Engineer for dewatering requirements.

45. Test boring data shown on the plans were accumulated for designing and estimating purposes. Their appearance on the plan does not constitute a guarantee that conditions other than those indicated will not be encountered.

46. 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 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.

47. Insulate utility lines at locations indicated on the plans. Provide a minimum insulation thickness of 4 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 Highload 40 Polystyrene Insulation. Individual insulation board dimensions typically measure 4' wide by 8' long by 2" thk.

48. Construct sanitary sewer, watermain, and storm sewer utilities in accordance with the City Engineer's Association of Minnesota Standard Specifications sections 2600, 2611, and 2621 dated 2013, or the latest revised edition.

49. These plans, prepared by Sunde Engineering, PLLC., do not extend to or include systems pertaining to the safety of the construction contractor or its employees, agents, or representatives in the performance of the work. The seal of Sunde Engineering's registered professional engineer hereon does not extend to any such safety systems that may nor or hereafter be incorporated into these plans. The construction contractor shall prepare or obtain the appropriate safety systems which may be required by U.S. Occupational Safety and Health Administration (OSHA) and/or local regulations.

50. Existing utilities shown on this plan are located as accurately as possible. However, the Engineer does not guarantee that all utilities are shown, or if shown are in the exact locations indicated on the plan. It is the Contractor's responsibility to ascertain the final vertical and horizontal location of all existing utilities (including municipal water and sewer lines and appurtenances) and to notify the owners of the utilities a minimum of 48 working hours before starting construction in a given area, requesting location in the field, as exact as possible, of all utilities which may be affected by the construction.

51. Trace Wire: Install locating wires on all conductive and non-conductive storm sewer, sanitary sewer, and water lines in accordance with the Minnesota Rural Water Association (MRWA) Trace Wire Specification Guide and Details (www.mrwa.com/PDF/TracerWireSpecGuideFinalweb9.pdf). Use #12 HDPE-insulated copper-clad steel wire rated for underground service. The color of the insulating jacket shall be as follows: ground=red, storm sewer=green, sanitary sewer=green, and water lines=blue. Install the wire on the bottom side of the pipe below the spring line. Fasten the wire to the pipe with tape or plastic ties at 5' intervals. Do not wrap the trace wire around the corresponding utility. Do not connect the trace wire to existing conductive utilities. Use Copperhead Dryconn 3-Way or Locking Snake Bite connectors rated for underground direct bury applications or approved equal at all crossings or service connections. Twist on connectors are not allowed. Trace wire must be properly grounded at all dead ends and services. Install grade-level/in-ground trace wire access boxes and drive-in magnesium grounding anodes at all dead ends, services, and fire hydrants. Trace wire access boxes shall be color coded as follows: storm sewer=green, sanitary sewer=green, and water lines=blue.

52. Detectable Warning Tape: Install detectable underground warning tape directly above all underground utilities at a depth of 457 mm (18 inches) below finished grade, unless otherwise indicated. Underground warning tape shall be 3-inches wide with a minimum 5.0 mil overall thickness. Tape shall be manufactured using a 0.8 mil clear virgin polypropylene film, reverse printed and laminated to a 0.35 mil solid aluminum foil core, and then laminated to a 3.75 mil clear virgin polyethylene film. The aluminum backing makes underground assets easy to find using a non-ferrous locator. Tape shall be printed using a diagonally striped design for maximum visibility and meet the APWA Color-Code standard for identification of buried utilities. Use Pro-Line Safety Products (www.prolinesafety.com) detectable marking tape or approved equal.

53. See architectural for building waterproofing and foundation drainage.

54. Place #3 rebar at 3' on center in all 6" thick concrete pavement locations. Place #4 rebar at 4' on center in all 8" thick concrete pavement locations.

55. Place #4 x 2'-0" tie bar at 3' on center in all concrete curb and gutter.

56. Provide as-builts in accordance with City and Watershed District requirements. Record as-built information as construction progresses or at appropriate construction intervals. Secure and deliver to the Owner as-built information showing locations, top, and invert elevations of maintenance holes, catchbasins, cleanouts, inlet and outlet pipes, valves, hydrants, and related structures. Location ties shall be to permanent landmarks or buildings.

57. In order to document and verify acceptance for adequate storm water treatment, provide a post-construction as-built survey in accordance with City and Watershed District requirements for all storm water infrastructure. This as-built survey shall include, but is not limited to, locations, top, and invert elevations of maintenance holes, catchbasins, cleanouts; all basin/swale grades; pipe inlets, outlet pipes and structures; emergency overflows, orifices, weirs; pipe sizes; draintile elevations and sizes; ponds, tanks, infiltration or filtration basins; and any associated storm water infrastructure.

58. Test reports required for project close-out include, but are not limited to: density test reports, bacteriological tests on the water system, pressure tests on the water system, leak tests on the sewer system, deflection tests on all HDPE pipe.

59. Removing Markings: Markings that are no longer applicable for roadway conditions or restrictions and that might cause confusion for the road user shall be removed or obliterated to be unidentifiable as a marking as soon as practical. Pavement marking obliteration shall remove the non-applicable pavement marking material, and the obliteration method shall minimize pavement scarring. Painting over existing pavement markings with black paint or spraying with asphalt shall not be accepted as a substitute for removal or obliteration.

60. Completely remove marking from locations shown on the plan in accordance with MnDOT Standard Specification Section 2102. Use one or a combination of air blasting, water blasting, and grinding. Provide a dust control system and remove accumulated sand or other materials. Collect, haul, and dispose of dust or residue from removals.

WATER DISTRIBUTION SYSTEM:

1. Bring all site utilities to 2' outside of the building line with the exception of the water service. Extend water service into the building and up to the flange for the water meter. Do not install PVC water service pipe under or within any building, structure, or part thereof.

2. Separation of Water and Sewer: Construct sewer and water services in accordance with Minnesota Rules, part 4714.0721 and Uniform Plumbing Code (UPC) parts 720.0 and 721.0. Provide a minimum horizontal separation of 10 feet between all water and sewer lines, including manholes, catch basins, storm sewer, sanitary sewer, draintile, or other potential sources for contamination. Measure the separation distance from the outer edge of the pipe to the outer edge of the contamination source (outer edge of structures, piping, etc.) At water and sewer crossings, the bottom of the water pipe located within ten feet of the point of crossing must be at least 12-inches above the top of the sewer. When this is not feasible, the sewer pipe material must be approved for use inside of or within a building in accordance with the requirements of Minnesota Rules part 4714.0701 and UPC part 701.0. No joints or connections are allowed on the water line within 10-feet of the crossing.

3. Watermain Depth: Maintain 8-feet of cover over the top of the water lines to the finished grade. Verify elevation of proposed and existing water lines at all utility crossings. Install the water lines at greater depths in order to clear storm sewers, sanitary sewers, or other utilities as required. Include costs to lower water lines in the base bid.

4. Disinfection: Disinfect all completed watermains in accordance with AWWA Standard C651. If the tablet or continuous feed methods are used, disinfect using with water that contains at least 50 ppm of available chlorine in accordance with Minnesota Rules, part 4714.0609 and UPC part 609.9. Do not use the tablet method on sewer-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.

5. 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. Pressure test the water system in accordance with the UPC part 609.4. Pressurize the waterline to a water pressure of 1034-kPa (150-psi) gauge pressure (measured at the point of lowest elevation) by means of a pump connected to the pipe in a satisfactory manner. Do not add water to the watermain in order to maintain the required pressure during the water main pressure testing. Minnesota Department of Labor and Industry: The test section of pipe shall withstand the test without leaking for a period of not less than 15 minutes. Minnesota Department of Health: The watermain shall be pressure tested at 150 psi for at least two hours with not more than a 2-psi pressure drop during the last hour of the test.

6. All water supply piping connected to municipal water main must have a 150 psi minimum pressure rating.

7. Copper tube for water services must comply with ASTM B88 and shall have a weight not less than Type L (in accordance with Minnesota Rules part 4714.0604 and UPC part 604.2.).

8. Polyvinyl Chloride (PVC) Building Water Services must comply with ASTM D1785, ASTM D2241, or AWWA C900; pressure rated for water (See Minnesota Rules part 4714.0604 and UPC part 604.0.). Do not install PVC water service pipe under or within any building, structure, or part thereof.

9. Polyethylene (PE) Building Water Services must comply with the requirements of AWWA Standard C901; pressure rated for water (See Minnesota Rules part 4714.0604 and UPC part 604.0.). Do not install PE water service pipe under or within any building, structure, or part thereof. PE pipe ranges in nominal size from 3/4 in. (19 mm) through 3 in. (76 mm) and conforms to the outside-diameter (OD) dimensions of iron pipe size (IPS). PE tubing ranges in size from 3/4 in. (19 mm) through 2 in. (51 mm) and conforms to the OD dimensions of copper tube size (CTS).

10. Ductile iron pipe (DIP) water services must comply with AWWA C151/ANSI A21.51 or AWWA C115/ANSI A21.15 (See Minnesota Rules part 4714.0604 and UPC part 604.0.). Use Thickness Class 52 DIP with push-on joints. Use petroleum resistant gaskets, Nitrile (NBR), or approved equal. Use only ANSI 316 stainless steel bolts and nuts on all watermain fittings, valves, and hydrants. Polyethylene encasement is required on all ductile iron pipe. Use V-Bio Enhanced Polyethylene Encasement or approved equal.

11. Polyvinyl Chloride (PVC) Watermain: Use AWWA C900 for all PVC watermain furnished with integral elastomeric bell and spigot joints; minimum pressure Class 150; dimension ratio not greater than 18; laying length 20 feet. Use EBAA Iron, Inc., Series 2000 PV Megalug," or approved equal for restraint on C900 PVC watermain. Use only ANSI 316 stainless steel bolts and nuts on all watermain fittings, valves, and hydrants.

12. Use mechanical joint restraint devices for joint restraint on all watermain bends having a vertical or horizontal deflection of 22-1/2 degrees or greater, all valves, stubs, extensions, tees, crosses, plugs, all hydrant valves, and all hydrants in accordance with City requirements. Use "Series 1100 Megalug" manufactured by EBAA Iron Inc., Eastland, Texas, or approved equal, installed in accordance with manufacturer's recommendations for restraint on Ductile Iron Pipe. Restraining devices are to have epoxy coating or approved equivalent. Restraining device hardware shall be ANSI 316 stainless steel, or approved equivalent.

13. Watermain Valves: At all valve locations which require a 12" or smaller valve, install gate valves which are of the compression resilient seated (CRS) type. Use American Flow Control's Series 2500 Ductile Iron Resilient Wedge Gate Valve, or approved equal. Gate valves shall conform to AWWA C509. Install cast iron valve boxes conforming to ASTM A48 at each valve location. Valve boxes shall be the three-piece type with 5-1/4" shafts. Use Tyler 6860-G with No. 6 base, or equivalent. Valve boxes shall have at least 6" of adjustment above and below finished grade. Drop covers on valve boxes shall be round and bear the word "WATER" cast on the top. Use Tyler 6860-G "Stayput" covers with extended skirt, or equivalent. All valve hardware shall be ANSI 316 stainless steel, or approved equivalent.

14. Curb Valves and Boxes: Use Mueller H-10334 extension type curb box with Minneapolis pattern base, or approved equal, at all 3/4" through 2" curb stop locations. Stationary rod is required on all curb stops. Use Mueller Company Mark II Oriseal No. H-15154N curb stop, or approved equal, and stainless steel stem rod.

15. Do not connect new watermain to existing until the new water main is pressure tested and disinfected.

16. Trace Wire: Install locating wires on all conductive and non-conductive storm sewer, sanitary sewer, and water lines in accordance with the Minnesota Rural Water Association (MRWA) Trace Wire Specification Guide and Details (www.mrwa.com/PDF/TracerWireSpecGuideFinalweb9.pdf). Use #12 HDPE-insulated copper-clad steel wire rated for underground service. The color of the insulating jacket shall be as follows: ground=red, storm sewer=green, sanitary sewer=green, and water lines=blue. Install the wire on the bottom side of the pipe below the spring line. Fasten the wire to the pipe with tape or plastic ties at 5' intervals. Do not wrap the trace wire around the corresponding utility. Do not connect the trace wire to existing conductive utilities. Use Copperhead Dryconn 3-Way or Locking Snake Bite connectors rated for underground direct bury applications or approved equal at all crossings or service connections. Twist on connectors are not allowed. Trace wire must be properly grounded at all dead ends and services. Install grade-level/in-ground trace wire access boxes and drive-in magnesium grounding anodes at all dead ends, services, and fire hydrants. Trace wire access boxes shall be color coded as follows: storm sewer=green, sanitary sewer=green, and water lines=blue.

17. Detectable Warning Tape: Install detectable underground warning tape directly above all underground utilities at a depth of 457 mm (18 inches) below finished grade, unless otherwise indicated. Underground warning tape shall be 3-inches wide with a minimum 5.0 mil overall thickness. Tape shall be manufactured using a 0.8 mil clear virgin polypropylene film, reverse printed and laminated to a 0.35 mil solid aluminum foil core, and then laminated to a 3.75 mil clear virgin polyethylene film. The aluminum backing makes underground assets easy to find using a non-ferrous locator. Tape shall be printed using a diagonally striped design for maximum visibility and meet the APWA Color-Code standard for identification of buried utilities. Use Pro-Line Safety Products (www.prolinesafety.com) detectable marking tape or approved equal.

18. Threaded hose connections including hose bibbs and hydrants must include a back flow prevention device in accordance with Minnesota Rules, part 4714.0603 and UPC part 603.0. Wall hydrants must meet ASSE Standard 1019 (see Table 603.2). Where permitted by the administrative authority, wall hydrants may utilize non-removable ASSE 1052 backflow preventers or non-removable ASSE 1011 vacuum breakers and provision is made to protect from freezing (see Minnesota Rules, Chapter 4714, Sections 603.5.7, 312.6, and 301.1.2).

19. All newly installed or replacement pipes, pipe fittings, plumbing fittings and fixtures, including backflow preventers, that are installed on potable water systems or systems that are designed to distribute water for potable use, are required to meet the Reduction of Lead in Drinking Water Act, which establishes a maximum lead content of 0.25 percent by weighted average of the wetted surfaces. Solder and flux for potable water systems shall contain less than 0.2 percent lead. Joints must include non-corrosive non-toxic paste-type flux complying with ASTM B813 (see Minnesota Rules, Chapter 4714, Section 605.3.4). See Minnesota Rules, part 4714.0604 and UPC part 604.11.

20. Do not exceed the manufacturer's specifications for curvature of pipe and deflection at pipe joints. Securely close all open ends of pipe and fittings with watertight plugs when work is not in progress. Keep the interior of all pipes clean and remove any dirt or debris from joint surfaces after the pipes have been lowered into the trench. Install all valves plumb and located according to the plans.

21. Insulate the watermain at locations indicated on the plans. Provide a minimum insulation thickness of 4 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 Highload 40 Polystyrene Insulation. Individual insulation board dimensions typically measure 4' wide by 8' long by 2" thk.

SANITARY SEWER:

1. 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 (15 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 C443. These joints are normally used in sewers to hold infiltration and exfiltration to a practical minimum and are adequate for hydrostatic heads up to 30'. The inside barrel diameter shall not be less than 48 inches.

2. All joints and connections in the sewer system shall be gastight or watertight. Inlet and outlet connections to sewer manholes must use flexible compression joints located between 12 and 36 inches from the manhole (see Uniform Plumbing Code (UPC) Section 719.6). Where permitted by the administrative authority as an alternate installation method, approved resilient rubber joints or waterstop gaskets may be used in order to make watertight connections to manholes and other structures (see UPC Section 301.2). Use Fernco "Concrete Manhole Adaptors" or "Large Diameter Waterstops", Press-Seal "Waterstop Grouting Rings", or approved equal. Cement mortar joints are permitted only for repairs or connections to existing lines having such joints.

3. The building sewer starts 2 feet outside of the building. See Uniform Plumbing Code (UPC) part 715.1. Material installed within 2 feet of the building must be of materials approved for use inside of or within the building.

4. The exterior sanitary sewer piping must comply with the following requirements: (A) Double wyes may not be used for drainage fittings in the horizontal position (see Minnesota Rules, Chapter 4714, Section 310.5). Proper pipe slope cannot be maintained on both of the offset branches. (B) Changes in direction in drainage piping must be made by appropriate use of wyes and bends (see Minnesota Rules, Chapter 4714, Section 706.0). Tees are not allowed where the direction of flow changes from either vertical to horizontal or horizontal to horizontal.

5. Pipe: Use solid-core, Schedule 40 Polyvinyl Chloride (PVC) Plastic Pipe for all designated PVC sanitary sewer services outside of the building. The PVC pipe shall meet or exceed the industry standards and requirements as set forth by the American Society for Testing and Materials (ASTM) D1785 and D2665. Fittings must comply with ASTM D1866, D2665, or F794. Joints must be approved mechanical or push-on utilizing an elastomeric seal. Use of solvent cement joints is allowed for building services. Solvent cement joints in PVC pipe must use ASTM F656 purple primer and ASTM D2564 cement in accordance with Uniform Plumbing Code (UPC), part 605.13.2. The installation must comply with ASTM D2321, which requires open-trench installation on a continuous granular bed.

6. Cleanouts: Install cleanouts on all sanitary sewer services in accordance with UPC part 719.0 and 1101.12. Install cleanouts for pipes 4-inch and over in size at intervals not to exceed 100 feet in straight runs and for each aggregate horizontal change in direction exceeding 135 degrees. Cleanouts shall be of the same nominal size as the pipes they serve. 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.

7. Testing: Pressure test all sanitary sewer lines in accordance with the Minnesota Rules parts 4714.0712 and 4714.0723 and UPC parts 712.0 and 723.0. 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.

8. Install flexible watertight frame/chimney seals on all sanitary sewer maintenance holes in order to seal the outside of the chimney from the cast iron frame down to the cone. The seal shall be a continuous seamless band made of high quality EPDM (Ethylene Propylene Diene Monomer) rubber with a minimum thickness of 65 mils. Use Internal/External Adapter Seal as manufactured by Adaptor, Inc. (www.adaptorinc.com/wp-content/uploads/2019/04/ADAP_IEMaintSeal_Inc1.pdf), Infi-Shield Uni-band one piece molded sealing system as manufactured bySealing Systems, Inc. (www.ssisealingsystems.com), or approved equal.

9. 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.

10. Grease Interceptor: The grease interceptor shall be readily accessible. Manhole risers for grease interceptor tanks shall be provided with a substantial, fitted, gas-tight cover of concrete, steel, cast iron or other approved material. Manhole covers shall terminate at or above grade and shall have an approved locking device. A minimum 4x6-inch permanent label shall be affixed to the manhole cover, identifying the interceptor tank with the words GREASE INTERCEPTOR.

11. Trace Wire: Install locating wires on all conductive and non-conductive storm sewer, sanitary sewer, and water lines in accordance with the Minnesota Rural Water Association (MRWA) Trace Wire Specification Guide and Details (www.mrwa.com/PDF/TracerWireSpecGuideFinalweb9.pdf). Use #12 HDPE-insulated copper-clad steel wire rated for underground service. The color of the insulating jacket shall be as follows: ground=red, storm sewer=green, sanitary sewer=green, and water lines=blue. Install the wire on the bottom side of the pipe below the spring line. Fasten the wire to the pipe with tape or plastic ties at 5' intervals. Do not wrap the trace wire around the corresponding utility. Do not connect the trace wire to existing conductive utilities. Use Copperhead Dryconn 3-Way or Locking Snake Bite connectors rated for underground direct bury applications or approved equal at all crossings or service connections. Twist on connectors are not allowed. Trace wire must be properly grounded at all dead ends and services. Install grade-level/in-ground trace wire access boxes and drive-in magnesium grounding anodes at all dead ends, services, and fire hydrants. Trace wire access boxes shall be color coded as follows: storm sewer=green, sanitary sewer=green, and water lines=blue.

12. Detectable Warning Tape: Install detectable underground warning tape directly above all underground utilities at a depth of 457 mm (18 inches) below finished grade, unless otherwise indicated. Underground warning tape shall be 3-inches wide with a minimum 5.0 mil overall thickness. Tape shall be manufactured using a 0.8 mil clear virgin polypropylene film, reverse printed and laminated to a 0.35 mil solid aluminum foil core, and then laminated to a 3.75 mil clear virgin polyethylene film. The aluminum backing makes underground assets easy to find using a non-ferrous locator. Tape shall be printed using a diagonally striped design for maximum visibility and meet the APWA Color-Code standard for identification of buried utilities. Use Pro-Line Safety Products (www.prolinesafety.com) detectable marking tape or approved equal.

13. 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 4 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 Highload 40 Polystyrene Insulation. Individual insulation board dimensions typically measure 4' wide by 8' long by 2" thk.

14. 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. Field verify that there is positive drainage at the outfall location. 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.

15. All saddle tee or wye fittings must provide an integrally molded pipe stop in the branch for positive protection against service pipe insertion beyond the inside of the sewer main pipe wall.

16. Televise all existing lines prior to connection.

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

Sunde Engineering, PLLC.
SUNDE ENGINEERING, PLLC.
10830 NESBITT AVENUE SOUTH
BLOOMINGTON, MINNESOTA 55437
(952) 881-3344 TELEPHONE
(952) 881-1913 FAX
www.sundeCivil.com

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

Brian H. Mundstock

DATE: 02/13/23 REG. NO.: 23468

UTILITY NOTES

CONVENIENCE STORE 1266

-- LINO LAKES, MINNESOTA

NO.	DATE	DESCRIPTION
-	05APR22	SUBMITTAL
-	20MAY22	ROW / SITE SHIFT
-	27JUN22	CITY COMMENTS
-	05AUG22	ROW'D COMMENTS
-	13SEP22	BID SET / CITY COMMENTS
-	16NOV22	CITY COMMENTS
-	11JAN23	CITY COMMENTS
-	31JAN23	CITY COMMENTS
-	09FEB23	ANOKA COUNTY COMMENTS
-	13FEB23	CONSTRUCTION

DRAWN BY

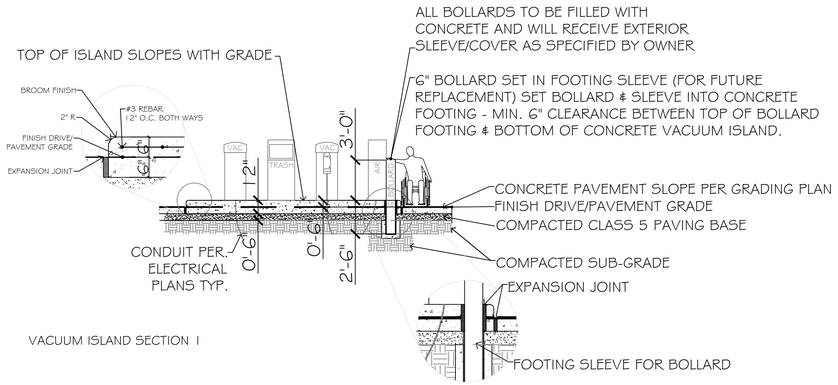
SCALE GRAPHIC

PROJ. NO. 22-1266

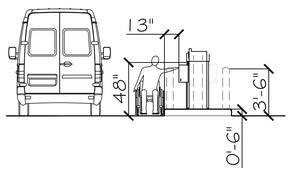
DATE 04-25-22

SHEET **SP4.1**

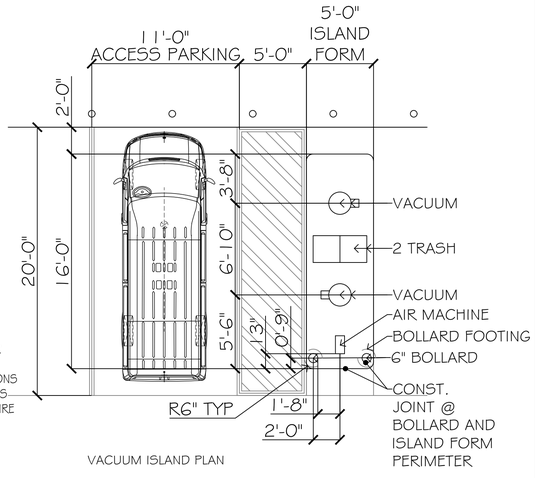
KWIK TRIP PM J.V.



VACUUM ISLAND SECTION 1



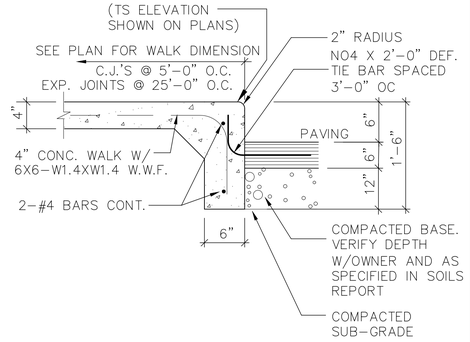
VACUUM ISLAND SECTION 2



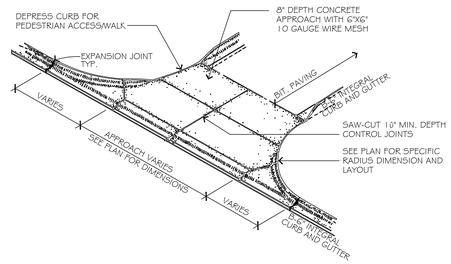
VACUUM ISLAND PLAN

NOTE: ACCESS PARKING FOR VACUUM AND AIR NEEDS TO CONFORM TO ADA DIMENSIONS AND MAXIMUM GRADE CROSS SLOPE BUT DOES NOT REQUIRE DESIGNATED ACCESSIBLE SPACE SIGNAGE SO ALL INDIVIDUALS CAN USE THE ISLAND COMPLEX

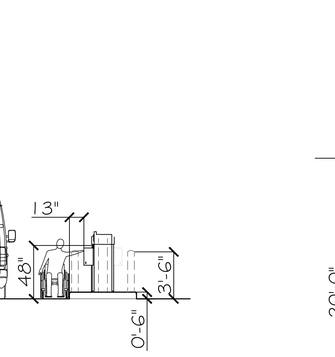
1 | SP5 | VACUUM ISLAND DETAILS
NOT TO SCALE

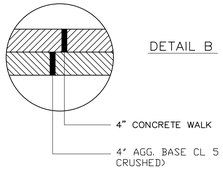


7 | SP5 | SIDEWALK/ CURB DETAIL
NOT TO SCALE



10 | SP5 | CONCRETE APPROACH DETAIL
NOT TO SCALE



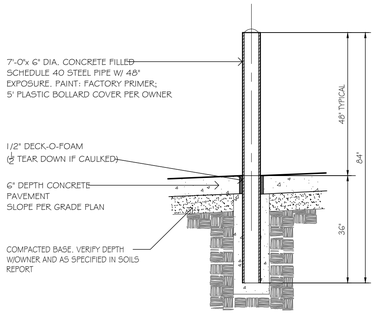


NOTES:

1. 8" THICK CONCRETE SIDEWALK AT ALL DRIVEWAYS
2. PLACE PEDESTRIAN CURB RAMPS AT ALL INTERSECTIONS.
3. PROVIDE EXPANSION JOINT MATERIAL AT MAX. 60 FOOT SPACING.
4. PROVIDE EXPANSION JOINT MATERIAL ALONG BOTH EDGES OF WALK, WHERE WALK IS CONTAINED BETWEEN FIXED OBJECTS.

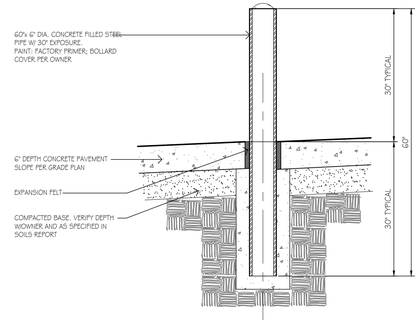
3 | SP5 | CONCRETE WALK/ PAD DETAIL
NOT TO SCALE

NOTE: SEE ARCHITECTURAL PLANS FOR REMOVABLE BOLLARD LOCATION AND DETAIL



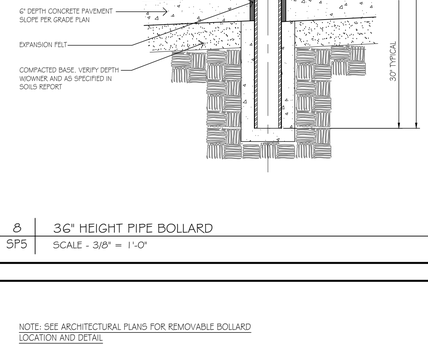
6 | SP5 | 48" HEIGHT PIPE BOLLARD
SCALE - 1/2"= 1'-0"

NOTE: SEE ARCHITECTURAL PLANS FOR REMOVABLE BOLLARD LOCATION AND DETAIL

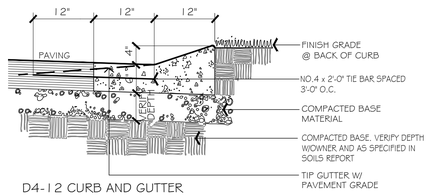


9 | SP5 | 30" HEIGHT PIPE BOLLARD
SCALE - 3/8" = 1'-0"

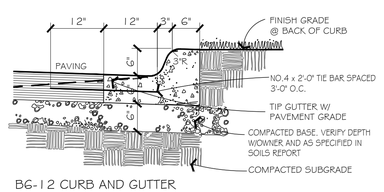
NOTE: SEE ARCHITECTURAL PLANS FOR REMOVABLE BOLLARD LOCATION AND DETAIL



8 | SP5 | 36" HEIGHT PIPE BOLLARD
SCALE - 3/8" = 1'-0"

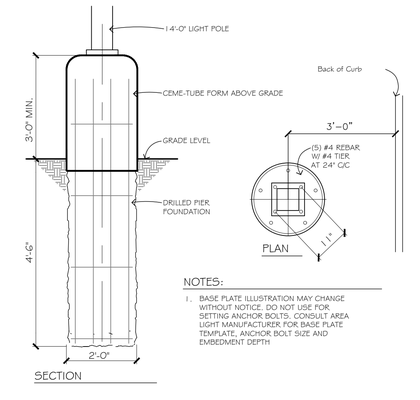


D4-12 CURB AND GUTTER



B6-12 CURB AND GUTTER

11 | SP5 | CONCRETE CURB DETAIL
SCALE - 3/4" = 1'-0"



NOTES:

1. BASE PLATE ILLUSTRATION MAY CHANGE WITHOUT NOTICE. DO NOT USE FOR SETTING ANCHOR BOLTS. CONSULT AREA LIGHT MANUFACTURER FOR BASE PLATE TEMPLATE, ANCHOR BOLT SIZE AND EMBEDMENT DEPTH

SECTION

12 | SP5 | ROUND AREALIGHT FOUNDATION
SCALE - 1/2"= 1'-0"

KWIK TRIP
KWIK STAR

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

INSITES
SITE PLANNING LANDSCAPE ARCHITECTURE
3131 Fernbrook Lane North, STE 260
Plymouth Minnesota 55447
763.383.8400
fax 763.383.8440

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

Date 25JAN23 License No. 19306

Signed Robert J. Mueller

SITE PLAN DETAILS

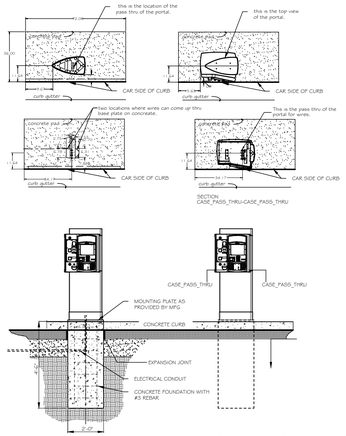
CONVENIENCE STORE 1266

-- LINO LAKES, MINNESOTA

NO.	DATE	DESCRIPTION
-	22APR25	INTERNAL REVIEW
-	22MAY05	SUBMITTAL
-	22MAY20	ROW WAYSITE SHIFT
-	22JUN27	CITY COMMENTS
-	05AUG22	KDWD COMMENTS
-	13SEP22	BID SET/CITY COMMENTS
-	15SEP22	BID SET
-	14NOV22	CITY COMMENTS
-	11JAN23	CITY COMMENTS
-	31JAN23	CITY COMMENTS
-	09FEB23	ANOKA COUNTY COMMENTS
-	13FEB23	CONSTRUCTION

DRAWN BY
SCALE GRAPHIC
PROJ. NO. 22-1266
DATE 04-25-22
SHEET SP5

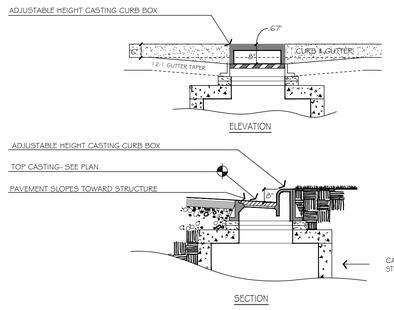
INSITES 22-069 PM JV



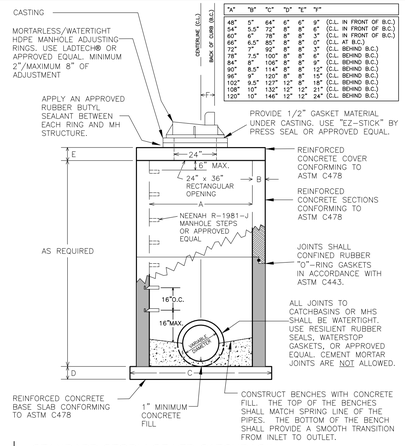
CONTROLLER INFORMATION AND SPECIFICATION PER UNITEC INC. 7125 TROY HILL DRIVE ELKRIDGE, MD. 21075

1 SPG | CARWASH PAY CONTROLLER
NOT TO SCALE

NOTE: THIS CURB CONSTRUCTION DETAIL IS TO BE USED AT LOW POINTS WHEN INDICATED ON PLAN. SEE GRADE PLAN FOR SPECIFIC CURB ELEVATIONS THAT REFLECT 8" DIFFERENCE FROM TOP OF CURB TO CASTING (SEE ACTUAL CB DETAILS FOR STRUCTURE INFO.)

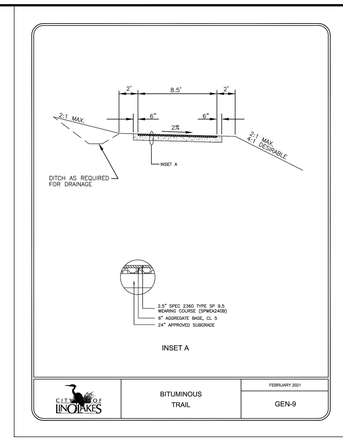


4 SPG | CURBLINE DETAIL AT CATCHBASIN CURB/PAVEMENT LOW POINTS (SPECIFIC LOCATIONS)
NOT TO SCALE



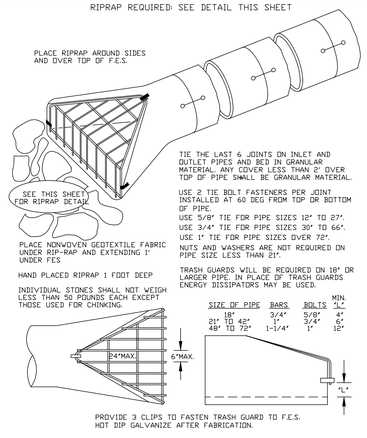
"A"	"B"	"C"	"D"	"E"	"F"
48"	5.5"	64"	6"	6"	9" (C.L. IN FRONT OF B.C.)
54"	5.5"	72"	8"	8"	6" (C.L. IN FRONT OF B.C.)
60"	7"	78"	8"	8"	3" (C.L. IN FRONT OF B.C.)
66"	6.5"	85"	8"	8"	0" (C.L. BEHIND B.C.)
72"	7"	92"	8"	8"	3" (C.L. BEHIND B.C.)
78"	7.5"	100"	8"	8"	6" (C.L. BEHIND B.C.)
84"	8"	106"	8"	8"	9" (C.L. BEHIND B.C.)
90"	8.5"	114"	8"	8"	12" (C.L. BEHIND B.C.)
96"	9"	120"	8"	8"	15" (C.L. BEHIND B.C.)
102"	9.5"	127"	12"	8"	18" (C.L. BEHIND B.C.)
108"	10"	132"	12"	12"	21" (C.L. BEHIND B.C.)
120"	10"	146"	12"	12"	24" (C.L. BEHIND B.C.)

7 SPG | STANDARD STORM SEWER CATCHBASIN
NOT TO SCALE



10 SPG | BITUMINOUS TRAIL DETAIL
NOT TO SCALE

RIPRAP REQUIRED: SEE DETAIL THIS SHEET



TIE THE LAST 6 JOINTS ON INLET AND OUTLET PIPES AND BED IN GRANULAR MATERIAL. ANY COVER LESS THAN 2' OVER TOP OF PIPE SHALL BE GRANULAR MATERIAL.

USE 2 TIE BOLT FASTENERS PER JOINT INSTALLED AT 60 DEG FROM TOP OR BOTTOM OF PIPE.
USE 5/8" TIE FOR PIPE SIZES 12" TO 27".
USE 3/4" TIE FOR PIPE SIZES 30" TO 66".
USE 1" TIE FOR PIPE SIZES OVER 72".

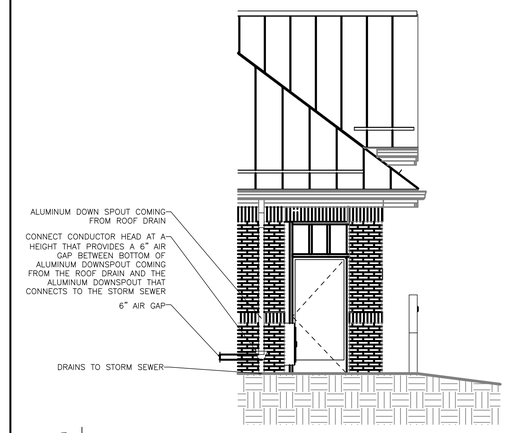
NUTS AND WASHERS ARE NOT REQUIRED ON PIPE SIZE LESS THAN 21".

TRASH GUARDS WILL BE REQUIRED ON 18" OR LARGER PIPE. IN PLACE OF TRASH GUARDS ENERGY DISSIPATORS MAY BE USED.

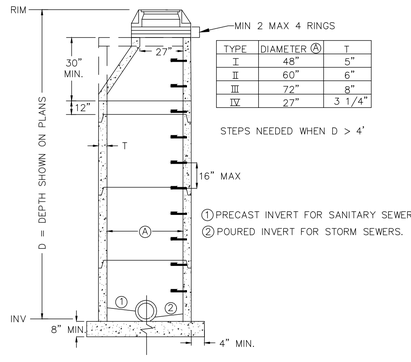
SIZE OF PIPE	BARS	BOLTS	MIN. "L"
18"	3/4"	5/8"	4"
21" TO 48"	3/4"	3/4"	6"
48" TO 72"	1-1/4"	1"	12"

PROVIDE 3 CLIPS TO FASTEN TRASH GUARD TO F.E.S. HOT DIP GALVANIZE AFTER FABRICATION.

2 SPG | FLARED END SECTION WITH TRASH GUARD
NOT TO SCALE



5 SPG
NOT TO SCALE

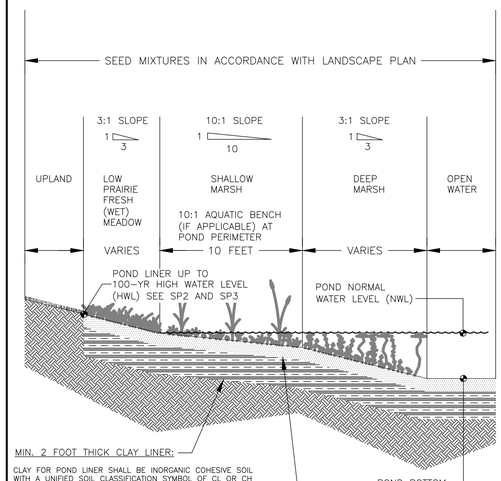


TYPE	DIAMETER Ⓐ	T
I	48"	5"
II	60"	6"
III	72"	8"
IV	27"	3 1/4"

STEPS NEEDED WHEN D > 4'

① PRECAST INVERT FOR SANITARY SEWERS.
② POURED INVERT FOR STORM SEWERS.

8 SPG | PRECAST REINFORCE CONC. MANHOLE
NOT TO SCALE

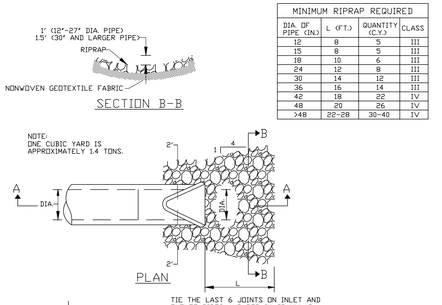


CLAY FOR POND LINER SHALL BE INORGANIC COHESIVE SOIL WITH A UNIFIED SOIL CLASSIFICATION SYMBOL OF CL OR CH MEETING THE FOLLOWING CRITERIA:

- LIQUID LIMIT (LL): LL > 25 WITH NONE LESS THAN 20.
- PLASTICITY INDEX (PI): PI > 12 WITH NONE LESS THAN 10.
- PERCENT FINER THAN #200 SIEVE: > 50% (WET SIEVE).
- PERCENT FINER THAN 1 INCH: > 95%.
- MAXIMUM PARTICLE SIZE: 2 INCH (DRY SIEVE).
- LINER THICKNESS: 2.0 FEET MIN.
- COMPACTION REQUIREMENT: 95% OF STANDARD PROCTOR MAXIMUM DRY DENSITY AND 90% FOR MODIFIED PROCTOR.
- MAXIMUM HYDRAULIC CONDUCTIVITY OF COMPACTED SAMPLE AT 95% OF MAXIMUM DENSITY (ASTM D-698): 1x10E-7 CM/SEC.
- CLAY INSTALLED WET OF OPTIMUM IF USING STANDARD PROCTOR, AND 2% WET OF OPTIMUM IF USING MODIFIED PROCTOR.
- SMOOTH DRUM COMPACTION EQUIPMENT IS NOT ALLOWED FOR CLAY COMPACTION.
- CLAY SHALL BE PLACED IN LIFTS OF NO GREATER THAN 6" PRIOR TO COMPACTION.
- CLAY SHALL BE DISKED OR OTHERWISE MECHANICALLY PROCESSED BEFORE COMPACTION TO BREAK UP CLODS. MAXIMUM CLOD SIZE IS 4".

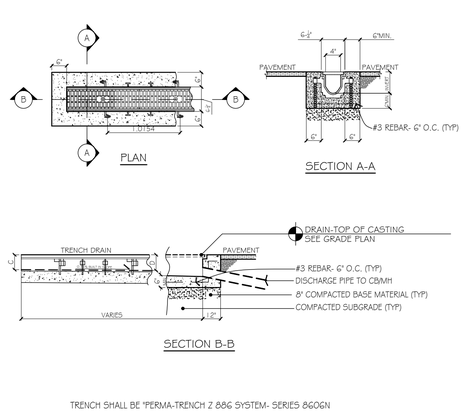
POND CROSS-SECTION

11 SPG | POND CROSS-SECTION
NOT TO SCALE



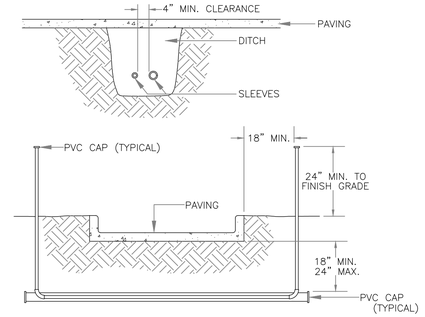
MINIMUM RIPRAP REQUIRED			
DIA. OF PIPE (IN.)	L (FT.)	QUANTITY (C.Y.)	CLASS
12	8	5	III
15	8	5	III
18	10	6	III
24	12	8	III
30	14	12	III
36	16	14	III
42	18	22	IV
48	20	26	IV
>48	22-28	30-40	IV

3 SPG | RIP RAP DETAIL FOR FLARED END SECTIONS
NOT TO SCALE



TRENCH SHALL BE "PERMA-TRENCH Z 886 SYSTEM- SERIES 860GN

6 SPG | Z 886 TRENCH DRAIN DETAIL
SCALE - 1/4"= 1'-0"



NOTES:
1. ALL PVC IRRIGATION SLEEVES TO BE SCH 40 PVC PIPE.
2. ALL JOINTS TO BE SOLVENT WELDED AND WATERTIGHT.
3. WHERE THERE IS MORE THAN ONE SLEEVE, EXTEND THE SMALLER SLEEVE TO 24-INCHES MINIMUM ABOVE FINISH GRADE.
4. MECHANICALLY TAMP TO 95% PROCTOR.

9 SPG | TYPICAL SLEEVING
NOT TO SCALE

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

INSITES
SITE PLANNING LANDSCAPE ARCHITECTURE
3131 Fernbrook Lane North. STE 260
Plymouth Minnesota 55447
763.383.8400
fax 763.383.8440

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

Date 25JAN23 License No. 19306

Signed Robert J. Mueller

SITE PLAN DETAILS
CONVENIENCE STORE 1266
-- LINO LAKES, MINNESOTA

NO.	DATE	DESCRIPTION
-	22APR25	INTERNAL REVIEW
-	22MAY05	SUBMITTAL
-	22MAY20	ROW WAYSISTE SHIFT
-	22JUN27	CITY COMMENTS
-	05AUG22	RCWD COMMENTS
-	13SEP22	BID SET/CITY COMMENTS
-	15SEP22	BID SET
-	16NOV22	CITY COMMENTS
-	11JAN23	CITY COMMENTS
-	31JAN23	CITY COMMENTS
-	09FEB23	ANOKA COUNTY COMMENTS
-	13FEB23	CONSTRUCTION

DRAWN BY
SCALE GRAPHIC
PROJ. NO. 22-1266
DATE 04-25-22
SHEET **SP6**

INSITES 22-069 PM: J.V.

CONSTRUCTION SEQUENCE

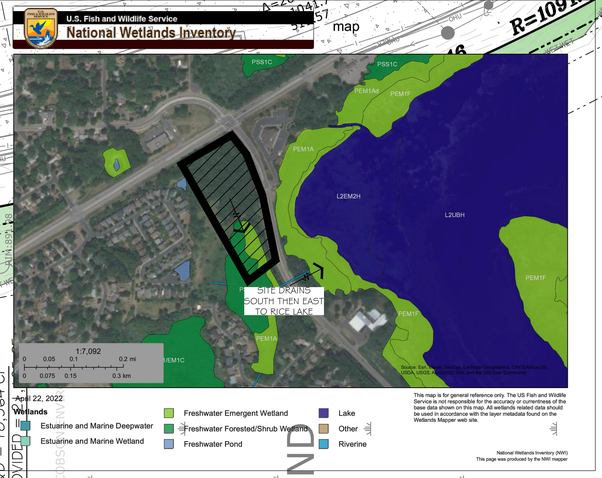
*INSTALL EROSION/SEDIMENT CONTROL MEASURES
*INSTALL STORMWATER MANAGEMENT AND/OR POND/SEDIMENT BASINS
*INSTALL STORM SEWER
*INSTALL STRUCTURES
*INSTALL PAVEMENTS
*INSTALL SMALL UTILITIES (GAS, ELECTRIC, PHONE, CABLE, ETC.)
*INSTALL LAWN/LANDSCAPE
*FLUSH STORM SEWERS
*REMOVE EROSION CONTROL MEASURES ONLY AFTER ALL PAVEMENTS HAVE BEEN INSTALLED AND ALL SOILS HAVE BEEN STABILIZED.

BLANDINGS TURTLE

BLANDINGS TURTLE HAS BEEN OBSERVED WITHIN A MILE OF THE SITE. THE MR DNR FLYER AND FACT SHEET MUST BE DISTRIBUTED TO ALL CONTRACTORS BEFORE WORKING ON THE SITE. ANY SIGHTINGS OF THIS SPECIES MUST BE REPORTED TO CITY STAFF IMMEDIATELY SO THAT THE TURTLE CAN BE SAFELY RELOCATED.

PROJECT DATA

PROJECT START DATE	MARCH 2023
PROJECT COMPLETION DATE	OCTOBER 2023
SITE AREA DATA	621,342SF
TOTAL SITE AREA	0 SF
PRE-CONSTRUCTION IMPERVIOUS AREA	82,360 SF
POST-CONSTRUCTION IMPERVIOUS AREA	14%
APPROX. AREA OF LAND DISTURBANCE	
SITE RUNOFF COEFFICIENT (CN)	50
PRE-CONSTRUCTION	62
POST-CONSTRUCTION	
SOIL DATA	ZIMMERMAN FINE SAND
SURFACE SOIL	RIFLE MUCKY PEAT
SUB-SURFACE SOIL	--
DEPTH OF GROUND WATER	--FT
DOWN-STREAM TRIBUTARY	RICE LAKE/RICE CREEK WATERSHED



Estimated Preliminary Erosion Control Quantities
(actual quantities subject to change)

Item	Quantity
Rock Construction Entrance	448 SQ. YD.
Silt Sack	15 TOTAL STRUCTURES
Erosion Control Blanket (basin)	5,916 SQ. YD.
Rip Rap	10 CU. YD.
Silt Fence	2,988 L. FT.
Rock Filtration Dikes	XXX L. FT.
Bio Roll/Erosion Log	60 L. FT.

Note: for maintenance purposes contractor shall all sufficient quantities for repair and replacement of erosion control devices throughout all phases of the projects construction.

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EROSION CONTROL PLAN

CONVENIENCE STORE 1266

LINO LAKES, MINNESOTA

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-	13FEB23	CONSTRUCTION

DRAWN BY

SCALE	GRAPHIC
PROJ. NO.	22-1266
DATE	04-25-22
SHEET	SWP1a

SWPPP DESIGN CERTIFICATION

I, ROBERT MUELLER, HEREBY CERTIFY THAT I HAVE COMPLETED DESIGNER SWPP-EROSION AND STORMWATER MANAGEMENT CERTIFICATION PROGRAM

MY CERTIFICATION EXPIRES MAY 2023

811 Know what's below. Call before you dig.

PLOTTING NOTE: PLANS PLOTTED TO 11x17 SHEET SIZE ARE ½ SCALE- 1"=80'

INSITES 22-009 P.M.J.V.

PROJECT DATA

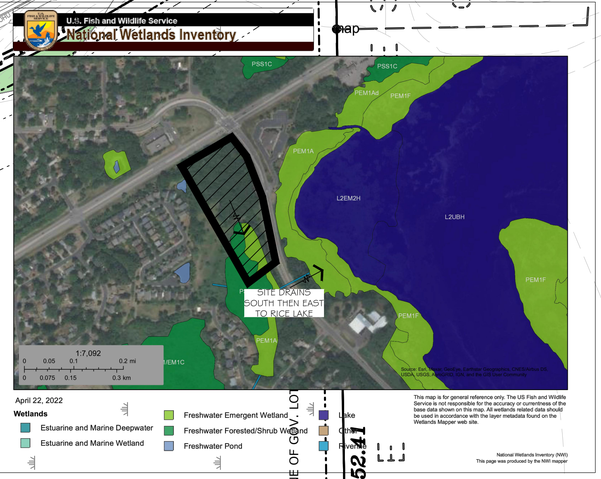
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SWPPP DESIGN CERTIFICATION

KWIK TRIP

KWIK STAR

KWIK TRIP, Inc.
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Signed
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EROSION CONTROL PLAN

CONVENIENCE STORE 1266

LINO LAKES, MINNESOTA

NO.	DATE	DESCRIPTION
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DRAWN BY	
SCALE	GRAPHIC
PROJ. NO.	22-1266
DATE	04-25-22
SHEET	SWP1b

INSITES 22-009 PM J.V.

GENERAL STORMWATER POLLUTION PREVENTION:

Apply for and obtain the General Storm Water Permit for Construction Activity from the Minnesota Pollution Control Agency.

Storm Water Pollution Prevention Plan (SWPPP): The SWPPP includes this narrative, Plan Sheets SP5, SP5.1 and SP6, and the Storm water Management Calculations. Keep a copy of the SWPPP, all changes to it, and inspections and maintenance records at the site during the construction. During the construction process the SWPPP will have to be amended to the changes performed by the contractor. the owner shall be aware of the amendments prior to changes made in the SWPPP. All notes, photographs, recorded dates, sketches, references, and diagrams will have to be recorded and made available as part of the SWPPP permit.

Individual(s) preparing the SWPPP for the project, overseeing implementation of the SWPPP, revising and amending the SWPPP, and at least one individual on the project performing installation, inspection, maintenance, and repairs of BMP's must be trained. The training must be done by a local, state, federal agencies; professional organization; or other entities with expertise in erosion prevention, sediment control, or permanent Storm water management. Training information and those certified must be noted in the SWPPP. Documentation of this information must be included in the SWPPP or made available within 72 hours. All trained individuals must be identified, including DESIGNER, INSTALLER and INSPECTOR.

Responsible Parties: The contractor must designate a person knowledgeable and experienced in the application of erosion prevention and sediment control BMPs who will oversee the implementation of the SWPPP, and the installation, inspection, and maintenance of the erosion prevention and sediment control BMPs before and during construction.

CONTACT JESSICA VINSON, PE
KWIK TRIP INC
1626 OAK STREET
LACROSSE, WI 54602
608-791-7647

The owner is responsible for identifying who will have responsibility for the long term operation and maintenance of the permanent storm water management systems.

SITE INVESTIGATION, INSTALLATION, IMPLEMENTATION :

Contractor shall ensure a trained person will oversee the installation of all devices. Name and certification of individual(s) responsible for installation shall be in the SWPPP. those individuals include those overseeing implementation and/or performing or supervising the installation.

1. Prior to any work, contractor shall visit the site, document existing conditions as necessary(photos, notes, etc) and note existing drainage patterns on and off site that are related to the project. Installer and inspector of the SWPPP shall determine on site if there are additional ways to create buffer zones and or phasing of the project construction to limit the extent of exposed soils. If this is determined to be helpful, the SWPPP shall be amended accordingly. These notes and changes shall be part of the SWPPP.

2. Install all temporary erosion and sediment control measures including silt fence, rock construction entrance(s), erosion control berms, rock filters, silt sacks, rock /earth berms, and sedimentation basins. Protect all receiving waters, catch basins, ditches, inlets etc. in and around the site. All protective and preventative measures must be in place and inspected prior to beginning site clearing, grading, or other land-disturbing activity.

3. Prior to beginning site clearing and grading, protect all storm sewer inlets that receive runoff from disturbed areas. In order to prevent sediment from leaving the site and entering the downstream storm sewer system, seal all storm sewer inlets that are not needed for site drainage during construction. Protect all other storm sewer inlets by installing sediment control devices, such as silt sacks, or rocked filtration logs/weirs. Straw bales or fabric under the grates are not acceptable forms of inlet protection. Protect new storm sewer inlets as they are completed. Maintain storm sewer inlet protection in place until all sources with potential for discharging to the inlets are stabilized.

4. Before beginning construction, install a TEMPORARY ROCK CONSTRUCTION ENTRANCE at each point where vehicles exit the construction site When at all possible contractor shall designate only one access point for vehicles entering and exiting the site. The rock on the entrance will have to be inspected daily and replaced or rock supplemented by the contractor when over 50% of the voids in the rock are filled. A cleaning station should be made available to drivers and visibly signed to see. Provide shovels, brooms and/or hose with a wash out area so soils can be removed from vehicles on site.

5. Avoid entire removal of trees and surface vegetation all at once whenever possible as this limits the amount of site susceptible to erosion. Schedule construction zones and note this on the SWPPP in order to expose the smallest practical area of soil at any given time. Utilize vegetation removed by on site grinding and mulching and using this material to protect the soil from erosion.

6. Areas That Discharge to Special or Impaired Waters: As a general rule for areas draining less than 10 acres, additional or alternative measures shall take place which include but are not limited to installing multiple lines of silt fence, constructing small basins/sediment collection ditches, vegetative strips, tarps, mulching or forms of temporary vegetation. Following initial soil disturbance or re-disturbance, complete permanent or temporary stabilization against erosion due to rain, wind, and running water within 7 calendar days on all disturbed or graded areas. This requirement does not apply to those areas that are currently being used for material storage on a daily basis or for those areas on which grading, site building, or other construction activities are actively underway. Provide temporary cover on all stacked topsoil piles, and other areas of stockpiled excavated material in order to prevent soil erosion and rapid runoff during the construction period. Stockpiles can be mulched,covered with poly or fabric, and or seeded during prolonged exposure. Prolonged periods of open, bare earth without grass cover will not be permitted. Stabilize all disturbed green-space areas with a minimum of 4" topsoil immediately after final sub-grade completion. Seed and mulch, or sod and protect these areas within 48 hours after completion of final grading work (weather permitting). Stabilize all disturbed areas to be paved using early application of gravel base. Stabilize the normal wetted perimeter of any temporary or permanent drainage ditch that conveys water from the construction site, or diverts water around the construction site, within 200 lineal feet from the property edge, or within 200 feet from the point of discharge to any surface water. Stabilize temporary or permanent drainage ditches within 24 hours of connecting to a surface water. Protect outfalls minimum of 200feet down stream and to the side of the discharge point. Additional settling "pots" achieved by filter logs or filtered stick bales staked in the channel will dissipate the water energy. Provide pipe outlets with temporary or permanent energy dissipation within 24 hours of connection to a surface water.

7. Receiving Waters - It is the contractors responsibility to inspect the site discharge point as well as downstream to the receiving body of water(pond, lake, stream, etc.) on a regular basis including after each storm event and document if any differences or changes in normal in discharge and if material is leaving the construction site. If so it shall be documented and removed immediately. Contractor shall be aware of DNR "water restrictions" during specified fish spawning time frames and all exposed soil areas that are within 200 feet of the waters edge, and drain to these waters must complete the stabilization activities within 24 hours of the restriction period.

NOTE: ALL EROSION AND SEDIMENT CONTROL DEVICES WILL BE CHECKED BY THE CONTRACTOR AFTER EACH STORM EVENT AND BE MAINTAINED, OR IMPROVED UPON AFTER EVERY STORM EVENT TO ENSURE ADEQUATE PERFORMANCE.

POLLUTION CONTROL:

1. Designate a Concrete Wash-out and truck wash area:
   Make it visible in the field to vehicle operators and note this on the SWPPP.

   a. When washouts occur on the site, concrete washout water must be contained in a leak-proof containment facility or impermeable liner. Liquid and solid wastes may not touch the ground and there must not be runoff from the concrete washout operations or areas.

   b. Limit external washing of trucks and other construction vehicles to a defined area preferably before the construction access/exit point. Wash vehicles only on an area stabilized with stone that drains into an approved sediment trapping device. Contain runoff and properly dispose of waste. Engine degreasing is prohibited.

2. Solid Waste: Properly dispose of collected sediment, asphalt and concrete millings, floating debris, paper, plastic, fabric, construction and demolition debris, and other wastes in compliance with Minnesota Pollution Control Agency requirements.

3. Hazardous Materials: Properly dispose of all waste and unused building materials (including garbage debris, cleaning wastes, oil, gasoline, paint, wastewater, toxic materials, and hazardous materials) off-site. Do not allow waste and unused building materials to be carried by runoff into a receiving channel or storm sewer system. Properly store oil, gasoline, paint, and other hazardous materials in order to prevent spills, leaks, or other discharge. Include secondary containment. Restrict access to storage areas in order to prevent vandalism. Storage and disposal of hazardous materials must be in compliance with MPCA regulations.

4. Machinery: and mechanized equipment that leaks waste shall have a protective barner or containment under the device adequate to contain the waste. Properly dispose of the waste.

5. Emergency spill station: Contractor shall locate and sign an emergency spill station that has necessary containment or cleanup devices for all workers to access.

EROSION CONTROL :

Apply necessary moisture to the construction area and haul roads to prevent the spread of dust.

Contractor shall utilize coarsely ground wood and tree mulches to cover exposed soils. Mulches shall be stored on site to supplement and use in problem areas during all phases of the construction project.

Contractor shall uses star tack or other organic substances in situations to prevent soil from eroding away by wind or rain.

Whenever possible contractor shall grade areas of soil to limit potential of erosion, to include tracking perpendicular to fall line of grades as well as diverting water flows from problematic areas on the site.

Seeding, fiber blankets, poly/tarps or cover mulches, disked mulches and compost can be used to cover temporarily exposed areas from wind and rain. Other methods by the contractor shall be documented in the SWPPP.

SEDIMENT CONTROL:

Inlet Sediment Control Protection Devices:
The following area approved Inlet Sediment Control Devices:

a. Road Drain Top Slab Model RD 23 (fits rough opening for 2'x3' inlet), Road Drain Top Slab Model RD 27 (fits rough opening for 27" inlet), or Road Drain Top Slab Model CG 3067 (fits Neenah Casting with 35-1/4"x17-3/4" dimensions) manufactured by:
WIMCO
799 Theis Drive
Shakopee, MN, 55379
Phone (952) 233-3055
or approved equal

b. Silt Sack manufactured by:
ACF ENVIRONMENTAL
2831 Cardwell Road
Richmond, VA, 23234
Phone (800) 448-3636
or approved equal

c. InfraSafe Sediment Control Barrier. Install geotextile sock on the outside of the barrier in order to trap additional fines. Standard frames are available to fit 24" to 30" diameter and 2'x3' openings.
Distributed by:
ROYAL ENTERPRISES AMERICA
30622 Forest Boulevard
Stacy, MN, 55079
Phone (651) 462-2130
or approved equal

d. Ridge Bag Rock Log. Use rock logs only for curb inlets after pavement is in place.
Manufactured by RED BARN RIDGE, 3135
County Road 136, Saint Cloud, MN, 35301
Phone (320) 253-3744
or approved equal

e. Inflatable drain plugs by Interstate Products www.interstateproducts.com or approved equal

Riprap:
Place a 450 mm (18 inch) thick layer of MNDOT 3601 Class III riprap onto a 225 mm (9 inch) thick layer of MNDOT 3601.2.B granular filter material at locations indicated on the plan in accordance with MNDOT 2511. Install two layers of MNDOT 3733 Type IV Geotextile fabric beneath the granular filter material. At pipe outfalls configure the installation as shown on MNDOT Standard Plate No. 3133C for the size of pipe indicated and extend the geotextile fabric under the culvert apron a minimum of 3 feet. For pipe sizes smaller than 300 mm (12 inch) diameter, the minimum quantity of riprap and filter blanket shall be no less than that required for 300 mm (12 inch) diameter pipes.

Silt Fence:
Install silt fence along the contour (on a level horizontal plane) with the ends turned up (J-hooks) in order to help pond water behind the fence. Install the silt fence on the uphill side of the support posts. Provide a post spacing of 1.2 m (4 feet) or less. Drive posts at least 0.6 m (2 feet) into the ground. Anchor the silt fence fabric in a trench at least 152 mm (6 inches) deep and 152 mm (6 inches) wide dug on the up-slope side of the support posts. Lay the fabric in the trench and then backfill and compact with a vibratory plate compactor. Make any splices in the fabric at a fence post. At splices, overlap the fabric at least 152 mm (6 inches), fold it over, and securely fasten it to the fence post. Silt fence supporting posts shall be 51 mm (2 inch) square or larger hardwood, pine, or standard T- or U-section steel posts. T- or U-section steel posts shall weigh not less than 1.8602 kg per meter (1.25 lb per lineal foot). Posts shall have a minimum length of 1524 mm (5 feet). Posts shall have projections to facilitate fastening the fabric and prevent slippage. Geo-textile fabric shall meet the requirements of MNDOT Standard Specification 3886 for pre-assembled silt fence, furnished in a continuous roll in order to avoid splices. Geo-textile fabric shall be uniform in texture and appearance and have no defects, flaws, or tears. The fabric shall contain sufficient ultraviolet (UV) ray inhibitor and stabilizers to provide a minimum two-year service life outdoors. Fabric color shall be international orange. In high traffic areas contractor shall reinforce silt fence with wire fencing and metal posts. extreme circumstances will require temporary concrete median sections to support material backing of stock piled soil or filled earth.

Install silt-fence, or other effective sediment controls, around all temporary soil stockpiles. Locate soil or dirt stockpiles containing more than 10 cubic yards of material such that the down-slope drainage length is no less than 8 m (25 feet) from the toe of the pile to a roadway or drainage channel. If remaining for more than seven days, stabilize the stockpiles by mulching, vegetative cover, tarps, or other means. Control erosion from all stockpiles by placing silt fence barriers around the piles. During street repair, cover construction soil or dirt stockpiles located closer than 8 m (25 feet) to a roadway or drainage channel with tarps, and protect storm sewer inlets with silt sacks or staked silt-fence. Do not stock pile soil or material near catch basins or drainage ways.

Temporary Rock Construction Entrance:
Use 25 mm (1 inch) to 50 mm (2 inch) diameter rock, MNDOT Standard Specification 3137 CA-1, CA-2, CA-3, or equal Coarse Aggregate. Place the aggregate in a layer at least 152 mm (6 inches) thick across the entire width of the entrance. Extend the rock entrance at least 15 m (50 feet) into the construction zone. Use a MNDOT Standard Specification 3733 Type V permeable geo-textile fabric material beneath the aggregate in order to prevent migration of soil into the rock from below. Maintain the entrance in a condition that will prevent tracking or flowing of sediment onto paved roadways. Provide periodic top dressing with additional stone as required. Close entrances not protected by temporary rock construction entrances to all construction traffic.

Temporary Sediment Basins
In the construction process or if noted on the plan the contractor shall construct temporary sediment basin(s). the basin shall be constructed before other construction starts. As per general rule the sediment basin shall be sized appropriately to a capacity related to the drainage area on a ratio of 3,600 cubic feet of sediment storage per acre of drainage zone entering the basin. Sediment basin shall be fenced if side slope exceed 4:1. Basins shall be inspected after every rainfall even. Sediment shall be removed at time of 1/2 the wetted volume/depth if filled. Sediment material shall be removed and stabilized. If changes to the basin are made, document and amend the SWPPP.

DEWATERING:

If de-watering is required and sump pumps are used, all pumped water must be discharged through an erosion control facility (temporary sedimentation basin, grit chamber, sand filter, up-flow chamber, hydro-cyclone, swirl concentrator, de-watering bag-not less than 100NTU's or other appropriate facility). Contractor shall allow silt and sediment to settle out in sediment basin prior to discharge and leaving the construction site. Proper energy dissipation must be provided at the outlet of the pump system. Discharge clear water only to vegetated areas, and must be discharged in a manner that does not cause nuisance conditions such as erosion in receiving channels or down slope properties. To achieve better separation of the material suspended in the water where soils are high in clay content, a biodegradable not toxic flocculent agent may be required.

If the contractor determines that de-watering will be necessary, a de-watering plan may have to be submitted to the watershed and/or DNR by the contractor for approval. A trench permit may also have to be submitted and will be the responsibility of the contractor. Water pumped from the site shall be pumped and treated for water quality per watershed and/or DNR.

Wet Basin gravity fed draw down shall be performed with a floating head intake "Faircloth skimmer" or similar device to remove clear un-silted water column in the ponds or temporary basins or excavated areas. Should areas need to be pumped contractor shall use a "Hale floating pump" to drawn down areas below gravity fed inverts.

For more information and materials on de-watering go to by Interstate Products www.interstateproducts.com
www.haleproducts.com and www.fairclothskimmer.com

INSPECTIONS-MAINTENANCE-DAILY RECORD-AMEND THE SWPP PLAN

Contractor must ensure that a trained person will oversee and inspect the construction site at least once every 7 days during active construction and within 24 hours after rainfall events greater that 0.5 inches in 24 hours.. Following an inspection that occurs within 24 hours after a rainfall event, the next inspection must be conducted within 7 days after the rainfall event. Note date and time in the SWPPP documents and name of person doing the inspections. Any changes made as the result of the inspection must be documented in the SWPPP.

1. Inspect all erosion and sediment control devices, stabilized areas, and infiltration areas on a daily basis until land-disturbing activity has ceased. Thereafter, inspect at least on a weekly basis until vegetative cover is established. Inspect all erosion and sediment control devices, stabilized areas, and infiltration areas within 24 hours after a rainfall event greater than 0.5 inches in 24 hours. Remove accumulated sediment deposits from behind erosion and sediment control devices as needed. Do not allow sediment to accumulate to a depth of more than one-third of the height of the erosion and sediment control devices. Immediately replace deteriorated, damaged, rotted, or missing erosion control devices. Document inspections and dates of rainfall events. Maintain a written log of all inspection, maintenance, and repair activities related to erosion and sediment control facilities. All nonfunctional BMPs must be repaired, replaced, or supplemented with functional BMPs within 24 hours after discovery, or as soon as field conditions allow access.

2. All inspections and maintenance activities must be recorded in writing DAILY in a detailed record(notes, photographs, sketches, etc, and kept with the SWPPP.

3. Remove all soils and sediments tracked or otherwise deposited onto adjacent property, pavement areas, sidewalks, streets, and alleys. Removal shall be on a daily basis throughout the duration of the construction. Clean paved roadways by shoveling or wet-sweeping. Do not dry sweep. If necessary, scrape paved surfaces in order to loosen compacted sediment material prior to sweeping. Haul sediment material to a suitable disposal area. Street washing is allowed only after sediment has been removed by shoveling or sweeping.

4. All soil hauled from the site shall be accounted for and documented in the SWPP. Its final destination and how the soil has been stored and stabilized.

5. Maintain all temporary erosion and sediment control devices in place until the contributing drainage area has been stabilized (hard-surfaced areas paved and vegetation established in green-space). Repair any rilling, gully formation, or washouts. After final establishment of permanent stabilization, remove all temporary synthetic, structural, and non-biodegradable erosion and sediment control devices and any accumulated sediments. Dispose-of off site. Restore permanent sedimentation basins to their design condition immediately following stabilization of the site.

6. Clean sedimentation basins, storm sewer catch basins, ditches, and other drainage facilities as required in order to maintain their effectiveness. Temporary and permanent sedimentation basins must be drained and the sediment removed when the depth of sediment collected in the basin reaches 1/2 of the storage volume. Drainage and removal must be completed within 72 hours, or as soon as field conditions allow access.

7. Inspect infiltration areas to ensure that no sediment from ongoing construction activities is accumulating. Remove sediment immediately ensuring sub-soils are not compacted by machinery.

8. Every vehicle shall not track material off-site. Clean the wheels of construction vehicles in order to remove soils before the vehicles leave the construction site. Wash vehicles only on an area stabilized with stone that drains into an approved sediment trapping device.

9. Reinforce erosion control facilities in areas where concentrated flows occur (such as swales, ditches, and areas in front of culverts and catch basins) by backing them with snow fence, wire mesh, or stiff plastic mesh reinforcement until paving and turf establishment operations have been completed. Posts for the reinforcing fence shall be 100 mm (4 inch) diameter wood posts, or standard steel fence posts weighing not less than 0.59 kg (1.3 lbs) per lineal foot, with a minimum length of 762 mm (30 inches) plus burial depth. Space posts for the reinforcing fence at intervals of 3 m (10 feet) or less. Drive posts for the reinforcing fence at least 0.6 m (2 feet) into the ground.

GENERAL SOIL STABILIZATION:
(SEE LANDSCAPE PLAN FOR MORE INFORMATION)

Establishment of lawn, prairie/wildflower and/or plant bed areas will be noted on the landscape plan to ensure stabilization of soils, re-staking of sod where applicable, proper watering and mulch maintenance will be required. Inspect seeded or sodded areas on a timely day-to-day basis. In the event of a seeding failure, reseed and re-mulch the areas where the original seed has failed to grow and perform additional watering as necessary at no additional cost to the Owner. Special maintenance provisions for wild and prairie grass seeded areas as noted in the landscape plan. Promptly replace all sod that dries out to the point where it is presumed dead and all sod that has been damaged, displaced, weakened, or heavily infested with weeds at no additional cost to the Owner.

In areas to be temporarily seeded, use seed mixture equivalent to MNDOT No. 21-113 (Soil Building Cover Crop). Apply seed mixture at a rate of 110 lb per acre in accordance with MNDOT Standard Spec. 3876-1. For permanent turf stabilization (not sodded) use seed mixture equivalent to MNDOT No. 25-131(Low Maintenance Turf). Apply seed mixture at a rate of 220 lb per acre in accordance with MNDOT Standard Spec. 3876-1. For permanent installations incorporate a fertilizer (slow release type with 10 week residual) consisting of 23-0-30 (%N-P-K) into the soil at an application rate of 200 lbs per acre by disking prior to seeding. In problematic areas it may be necessary to us a low phosphorus organic fertilizer in cases where seeds may not germinate. If this is the case, seed and fertilizer shall be disked into the surface and mulched properly to ensure germination and uptake of the Phosphorus by the seed.

For additional reference see MNDOT Standard Spec. Table 3876-1 for season of planting introduced seed mixtures. To ensure adequate germination of the seed the work will be performed as follows:
Spring- from April 1 through May 15.
Fall- from August 15 to September 20.
After September 20, wait until October 30 to perform dormant seeding. Dormant seeding will only be allowed if the maximum soil temperature at a depth of 25 mm (1 inch) does not exceed 4.44 degrees C (40 degrees F) in order to prevent germination.

In seeded areas with slopes steeper than 3:1 and lengths less than 15 meters (50 feet), install biodegradable erosion control blankets uniformly over the soil surface by hand within 24 hours after seeding in accordance with manufacturers recommendations. Use MNDOT Standard Spec. 3885 Straw 1S, or Wood Fiber 1S type blanket.

NOTE: THE PROJECT'S LANDSCAPE PLAN IS PART OF THE SWPP FOR SOIL STABILIZATION. REFERENCES SHALL BE MADE TO THE APPROVED LANDSCAPE PLAN. AMENDMENTS TO THE LANDSCAPE PLAN SHALL BE APPROVED BY THE OWNER AND DOCUMENTED AS PART OF THE SWPP

SWPPP DESIGN CERTIFICATION	SWPPP INSTALLER CERTIFICATION	SWPPP INSPECTOR CERTIFICATION
I, Robert Mueller, hereby certify that I have completed designer SWPP-Erosion and Stormwater Management Certification Program My certification expires May 2023	I hereby certify that I have completed Installer SWPP- Erosion and Stormwater Management Certification Program signed expiration	I hereby certify that I have completed Inspector SWPP- Erosion and Stormwater Management Certification Program signed expiration

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KWIK STAR

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INSITES
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763.383.8400
fax 763.383.8440

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Date 25JAN23 License No. 19306

Signed Robert J. Mueller

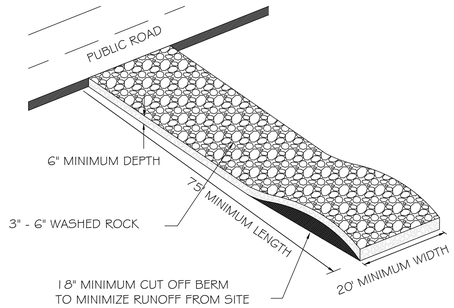
EROSION CONTROL NOTES
CONVENIENCE STORE 1266
-- LINO LAKES, MINNESOTA

NO.	DATE	DESCRIPTION
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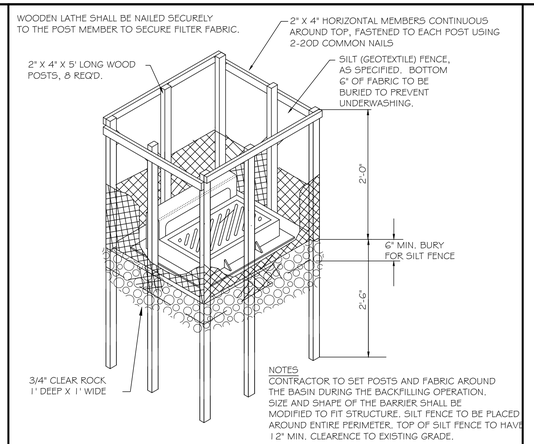
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SCALE	GRAPHIC
PROJ. NO.	22-1266
DATE	04-25-22
SHEET	SWP2

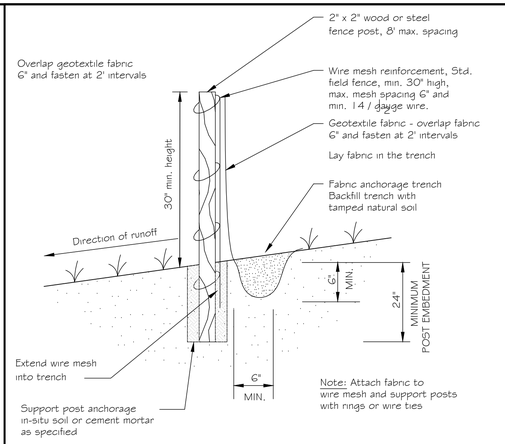
INSITES 22-069 PM JV



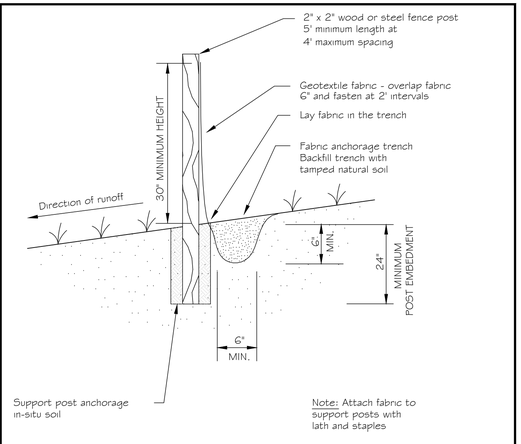
1 | ROCK CONSTRUCTION ENTRANCE



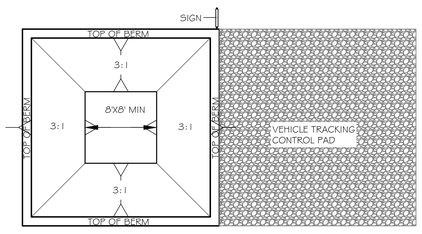
2 | EROSION CONTROL AROUND CATCH BASIN



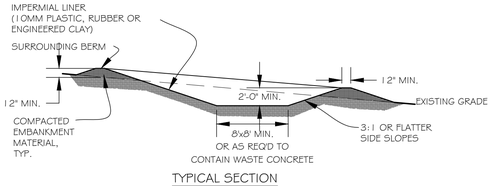
3 | HEAVY DUTY SILT FENCE



4 | SILT FENCE



PLAN
1/8"= 1'-0"



TYPICAL SECTION
1/8"= 1'-0"

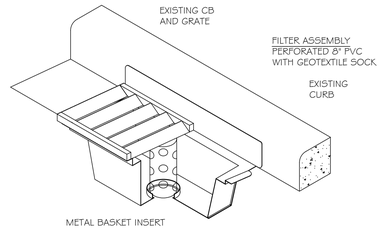
CONCRETE WASHOUT AREA INSTALLATION NOTES

1. SEE EROSION CONTROL PLAN FOR LOCATIONS OF CONCRETE WASHOUT AREA(S). TO BE PLACED A MIN. OF 50' FROM DRAINAGEWAYS, BODIES OF WATER, AND INLETS.)
2. THE CONCRETE WASHOUT AREA(S) SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
3. VEHICLE TRACKING CONTROL PAD IS REQ'D AT THE ACCESS POINT(S).
4. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE WASHOUT AREA(S), AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT AREAS TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
5. EXCAVATED MATERIAL SHALL BE UTILIZED IN PERIMETER BERM CONSTRUCTION.

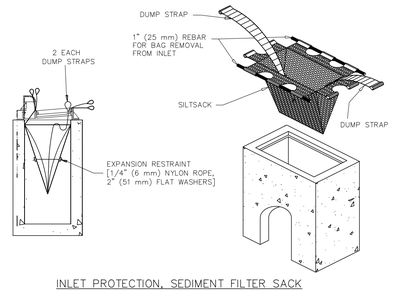
CONCRETE WASHOUT AREA MAINTENANCE NOTES

6. THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND ENLARGED OR CLEANED OUT AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE
7. AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM SITE AND DISPOSED OF AT AN APPROVED WASTE SITE.
8. WHEN CONCRETE WASHOUT AREA(S) IS REMOVED, THE DISTURBED AREA SHALL BE STABILIZED PER SITE EROSION CONTROL MEASURES.
9. INSPECT WEEKLY AND DURING AND AFTER ALL STORM EVENTS. CLEAN-OUT OR COVER WASHOUT AREA PRIOR TO PREDICTED STORM EVENTS TO PREVENT OVER-FLOW.

5 | CONCRETE WASHOUT AREA



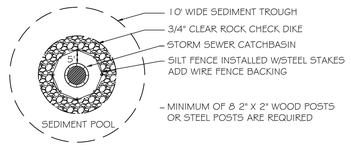
INLET PROTECTION, METAL BASKET TYPE



INLET PROTECTION, SEDIMENT FILTER SACK

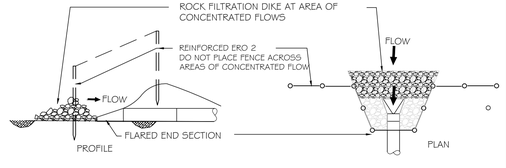
6 | INLET PROTECTION AT CATCH BASIN

A. EROSION CONTROL AROUND BEEHIVE BASINS

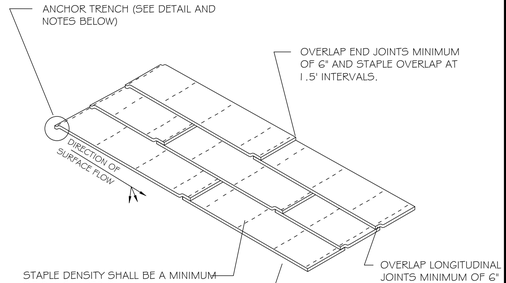


PLAN

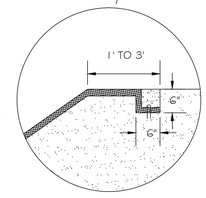
B. EROSION CONTROL AT FLARED END SECTION
TOP OF SILT FENCE TO BE LOWER THAN
LOWEST ADJACENT OVERFLOW



7 | EROSION CONTROL FOR OPEN SPACE CATCH BASINS AND FLARED-END SECTIONS



ANCHOR TRENCH
1. DIG 6" X 6" TRENCH
2. LAY BLANKET IN TRENCH
3. STAPLE AT 1.5' INTERVALS
4. BACKFILL WITH NATURAL SOIL AND COMPACT
5. BLANKET LENGTH SHALL NOT EXCEED 100' WITHOUT AN ANCHOR TRENCH



8 | EROSION CONTROL BLANKET INSTALLATION

KWIK TRIP
KWIK STAR

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P.O. BOX 2107
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EROSION CONTROL NOTES

CONVENIENCE STORE 1266

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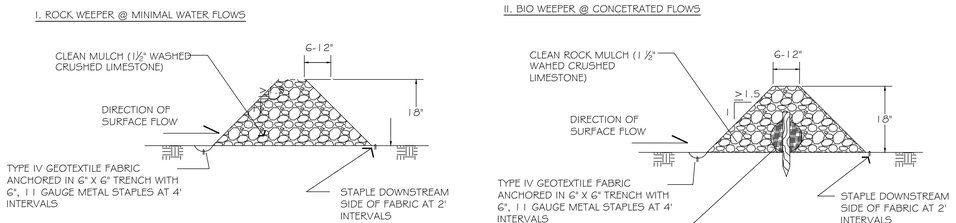
SCALE GRAPHIC

PROJ. NO. 22-1266

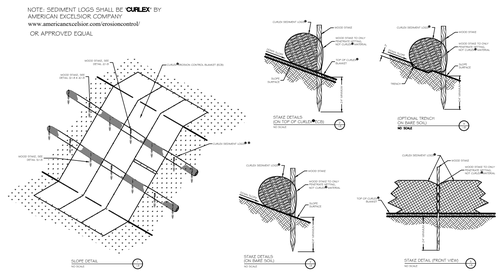
DATE 04-25-22

SHEET **SWP3**

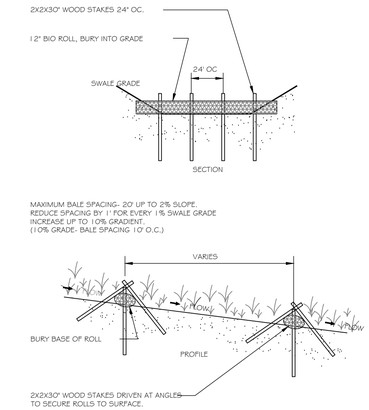
INSITES 22-069 PM JV



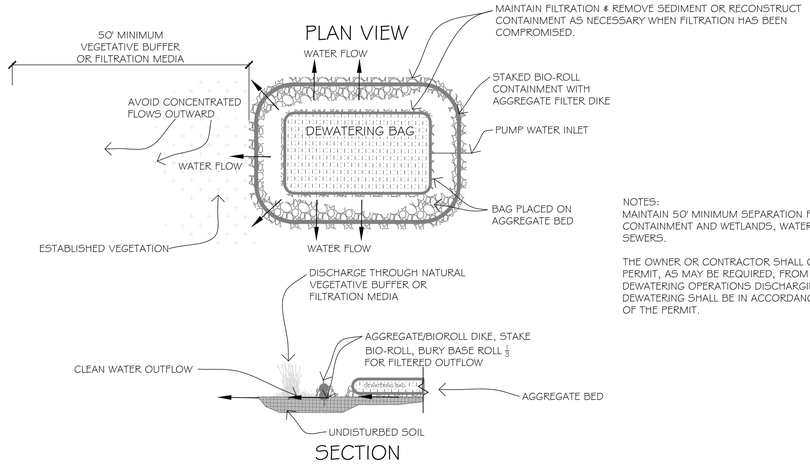
1 | DITCH CHECKS, ROCK WEEPERS, & ROCK BIO WEEPERS
EROSION CONTROL



2 | BIO ROLL INSTALLATION



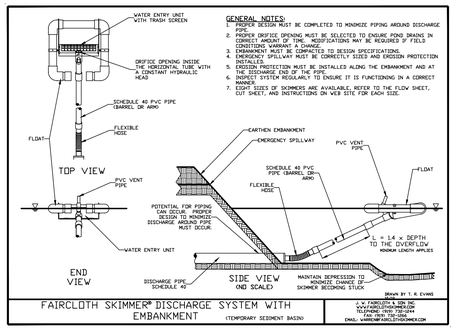
3 | DITCH CHECKS FOR DRAINAGE SWALES

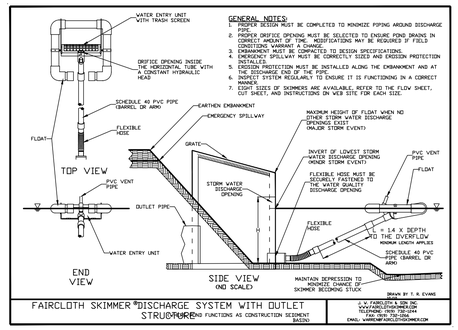


NOTES:
MAINTAIN 50' MINIMUM SEPARATION FROM DISCHARGE CONTAINMENT AND WETLANDS, WATER BODIES, OR STORM SEWERS.

THE OWNER OR CONTRACTOR SHALL OBTAIN DEWATERING PERMIT, AS MAY BE REQUIRED, FROM THE STATE PRIOR TO ANY DEWATERING OPERATIONS DISCHARGING FROM THE SITE. ALL DEWATERING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE PERMIT.

4 | DEWATERING BAG INSTALLATION, FOR DISCHARGING ERODED, SUSPENDED PARTICLES IN WATER
NOT TO SCALE





NOTE: USE ONLY IF NEEDED. WHEN CONSTRUCTION IS FINISHED, SEDIMENT IS TO BE REMOVED FROM POND. ONCE THE POND IS STABILIZED THE FAIRCLOTH SKIMMER CAN BE REMOVED AND THE INLET PIPE TO THE OUTLET STRUCTURE BE MADE FUNCTIONAL PER DETAIL SHEET SP3

5 | FAIRCLOTH SKIMMER DISCHARGE SYSTEM(OR APPROVED EQUAL BY OWNER)
SEDIMENT CONTROL

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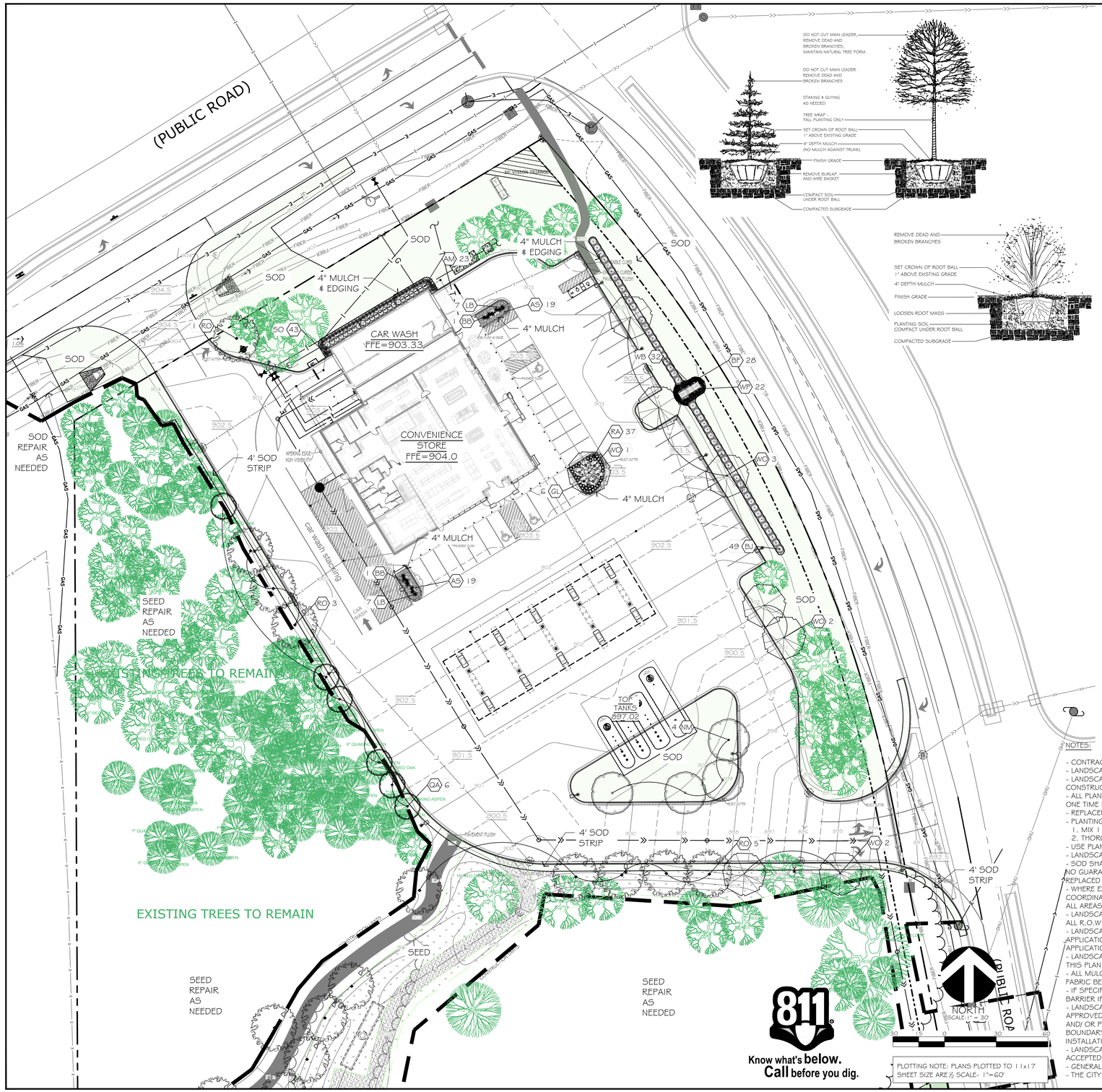
Robert J. Mueller

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SCALE GRAPHIC
PROJ. NO. 22-1266
DATE 04-25-22
SHEET **SWP4**

INSITES 22-009 PM J.V.



PLANT MATERIAL

		QUANTITY	SIZE	ROOT TYPE	COMMON NAME BOTANICAL NAME	HEIGHT' X WIDTH'
OVERSTORY TREES						
RO		19	2.5" CAL.	B&B	RED OAK *Quercus rubra*	60' x 50'
WO		8	2.5" CAL	B&B	WHITE OAK *Quercus alba*	50' x 50'
NM		4	2.5" CAL.	B&B	NORTHWOOD MAPLE *Acer rubrum 'Northwood'*	50' x 35'
QA		6	10' HT	B&B	QUAKING ASPEN *Populus tremuloides*	50' x 25'
WP		10	10' HT	B&B	WHITE PINE *Pinus strobus*	65' x 35'
BB		2	2" CAL.	B&B	APOLLO SUGAR MAPLE *Acer saccharum "Barrett Cole"*	25 x 10'
SHRUBS						
AM		23	#3 CONT	pot	AUTUMN MAGIC CHOKEBERRY *Aronia melanocarpa 'Autumn Magic'*	4' x 3'
BJ		47	#3 CONT	pot	BROADMOOR JUNIPER *Juniperus sabina 'Broadmoor'*	2' x 8'
GL		6	#3 CONT	pot	GRO-LOW FRAGRANT SUMAC *Rhus aromatica 'Gro-Low'*	2' x 7'
PERENNIALS						
SO		43	#1 CONT	pot	STELLA DE ORO DAYLILY *Hemerocallis 'Stella de Oro'*	2' x 3'
AS		38	#1 CONT	pot	AUTUMN JOY SEDUM *Sedum x 'Autumn Joy'*	18" x 18"
RA		37	#1 CONT	pot	FANAL RED ASTILBE *Astilbe x arendsii 'Fanal'*	18" x 18"
WB		32	#1 CONT	pot	WOODS BLUE ASTER *Aster dumosus 'Woods Blue'*	12" x 12"
WP		22	#1 CONT	pot	WOOD PURPLE ASTER *Aster dumosus 'Woods Purple'*	12" x 12"
GRASSES						
BF		28	#1 CONT	pot	FESTUCA ELIJAH BLUE *Festuca glauca 'Elijah Blue'*	8" x 8"
LB		14	#1 CONT	pot	LITTLE BLUE STEM *Schizachyrium scoparium*	4' x 3'

10' AQUATIC EMERGENT BENCH NOTES

NATIVE PLANTS, PLANTING AND TRANSPLANTING
A. Native planting shall not commence until planting areas have been properly amended and prepared.
B. The site shall be free from all weeds and invasive plant species.
C. Install plugs in the 10' aquatic bench @ 4' O.C.
D. Over seed pond slopes and bench immediately after pond grades are established and plugs are installed. Use a wetland seed mix for the bench and a restoration seed mix for the pond slopes. Maintain planted areas until they are established.
E. All emergent plants shall be saturated with water. Installation shall be at or below the water line a maximum 12" depth.

602 SY	10' AQUATIC EMERGENT BENCH. USE AN EQUAL DISTRIBUTION OF EACH SPECIES. OVER SEED WITH MN STATE SEED MIX 34-262 WET PRAIRIE (OR APPROVED EQUAL). PROVIDE EROSION CONTROL BLANKET ON SIDE SLOPES.	

QUANTITY			EMERGENT PLANT SPECIES	HEIGHT
113	4" POT	PLUG	HARDSTEM BULRUSH *Schoenoplectus acutus*	4' - 9'
113	4" POT	PLUG	SOFT STEM BULRUSH *Schoenoplectus tabernaemontani*	3' - 5'
113	4" POT	PLUG	SPIKE RUSH *Eleochans palustris*	1' - 3'

SEED SPEC: FALL SEEDING IS PREFERABLE (AUG. 20 TO OCT. 20). SPRING SEEDING SHOULD BE BETWEEN MARCH 15- MAY 15. NO SUMMER SEEDING.

4110 SY	MN STATE SEED MIX 35-221 - DRY PRAIRIE GENERAL (OR APPROVED EQUAL). PROVIDE EROSION CONTROL BLANKET ON SIDE SLOPES.

EDGING - 546 LF
MULCH - 26 CY
SOD - 3,823 SY

NOTES:
- CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR PLANTING IN ALL R.O.W.
- LANDSCAPE CONTRACTOR SHALL VERIFY ALL UTILITIES WHICH MAY EFFECT HIS WORK.
- LANDSCAPE CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHERS AT SITE AND COMPLETE HIS WORK PER OWNERS CONSTRUCTION SCHEDULE.
- ALL PLANT MATERIALS SHALL BE GUARANTEED ONE (1) FULL YEAR UPON TOTAL COMPLETION AND ACCEPTANCE BY OWNER, WITH ONE TIME REPLACEMENT AT APPROPRIATE TIME OR UPON REQUEST OF OWNER.
- REPLACEMENT TOPSOIL SHALL BE CLEAN, FREE OF STONES, WEEDS, AND OTHER UNDESIRABLE DEBRIS.
- PLANTING SOIL MIX (INCIDENTAL COST ITEM)
  1. MIX 1 LB. 5-20-20 COMMERCIAL FERTILIZER PER CU. YD. TOPSOIL
  2. THOROUGHLY MIX 1-PART SAND AND 1-PART PEAT MOSS WITH 5-PARTS FERTILIZER AND TOP SOIL.
- USE PLANTING SOIL AT ALL LOCATIONS PER DETAILS THIS SHEET.
- LANDSCAPE CONTRACTOR SHALL VERIFY TOPSOIL DEPTH AND NOTIFY OWNER OF ANY DEFICIENCY.
- SOD SHALL BE CULTURED WITH PREDOMINATELY KENTUCKY BLUEGRASS SEED OF RECENT DISEASE RESISTANT INTRODUCTIONS. NO GUARANTEE ON SOD EXCEPT ANY SOD NOT SATISFACTORY AT TIME OF COMPLETION INSPECTION SHALL BE PROMPTLY REPLACED PRIOR TO COMPLETION OF JOB. STAKE SOD ON SLOPES 3:1 AND GREATER.
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- LANDSCAPE CONTRACTOR TO INSTALL 'VALLEY VIEW', "BLACK DIAMOND" EDGING AROUND ALL PLANTING BEDS AS SHOWN ON THIS PLAN.
- ALL MULCH TO BE FINELY SHREDDED HARDWOOD ORGANIC BARK MULCH, NO DYED MULCHES. INSTALL 4" DEPTH. NO FILTER FABRIC BENEATH ORGANIC MULCHES. NO EDGING AROUND ALL TREES OUTSIDE SHRUB BEDS.
- IF SPECIFIED; ALL GRAVEL MULCH SHALL BE 1"+ DIA. WASHED "RIVER ROCK". INSTALL 4" DEPTH WITH APPROVED WEED FABRIC BARRIER IF INDICATED PLAN.
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- GENERAL CONTRACTOR TO SWEEP PAVEMENT AREAS PRIOR TO TURN OVER TO OWNER.
- THE CITY NATIVE PLANT ESTABLISHMENT REQUIREMENTS WILL BE IN EFFECT FOR THE AREAS RECEIVIN NATIVE SEED.

KWIK TRIP

KWIK STAR

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INSITES
SITE PLANNING LANDSCAPE ARCHITECTURE
3131 Fernbrook Lane North, STE 260
Plymouth Minnesota 55447
763.383.8400
fax 763.383.8440

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

Date 25JAN23 Lic. 19306

Signed Robert J. Mueller

LANDSCAPE PLAN

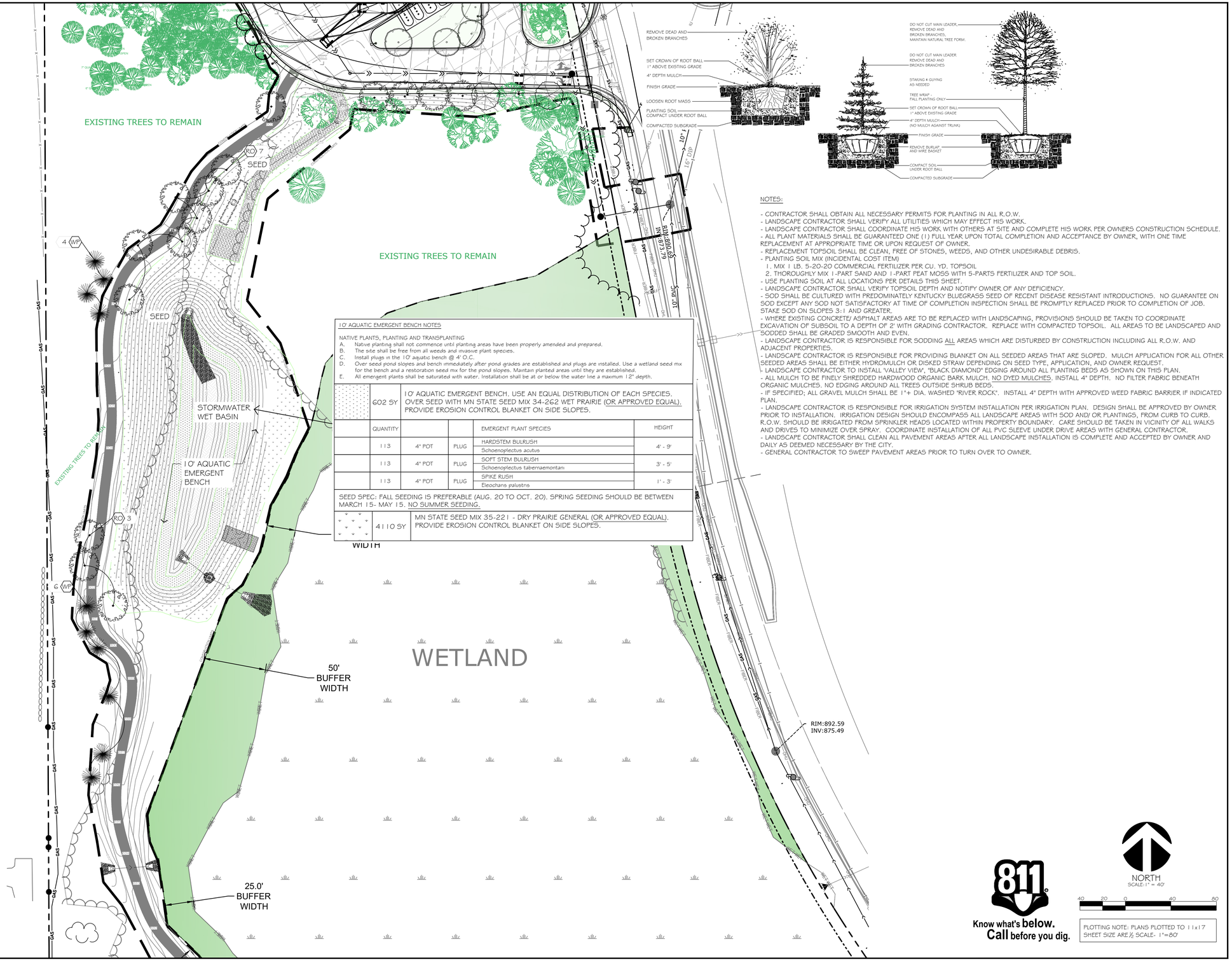
CONVENIENCE STORE 1266

-- LINO LAKES, MINNESOTA

NO.	DATE	DESCRIPTION
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INSITES 22-009 PM J.V.



10' AQUATIC EMERGENT BENCH NOTES

NATIVE PLANTS, PLANTING AND TRANSPLANTING

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Know what's below. Call before you dig.

NORTH
SCALE: 1" = 40'

40 20 0 40 80

PLOTTING NOTE: PLANS PLOTTED TO 11x17 SHEET SIZE ARE ½ SCALE- 1"=80'

KWIK TRIP

KWIK STAR

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Date 25JAN23 Lic. No. 19306

Signed Robert J. Mueller

LANDSCAPE PLAN

CONVENIENCE STORE 1266

LINO LAKES, MINNESOTA

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DATE 04-25-22
SHEET L1.1

INSITES 22-009 PM J.V.



LANDSCAPE REQUIREMENTS:

FOUNDATION LANDSCAPE ZONE
Required for buildings that face a public or private street
This is an area within 15' of the building

For every 100 l.f. of the building face(s) that are adjacent to a street shall there be 2 large trees and 6 large shrubs

Trees planted within 30' of the building are considered part of the foundation landscape zone

City may allow flexible planting locations where service areas or other constraints make the standards difficult to meet

BUFFER AND SCREENING STANDARDS
Required in between a parking lot and public row or sidewalk. Screening of 30" is required and can be achieved through a berm or year round continuous plant screening

Required between any development and residential. Screening height requirement is 6' and can be achieved through wall or fence, year round planting screen, or a berm

Year round planting screens must be done through a minimum of 2 rows of plants with triangulated spacing. Small shrubs be planted 3' O.C., medium shrubs at 4' O.C., and large shrubs at 6' O.C.

In addition to the shrub cover required in the table above, all screens shall be planted with large trees every 50 LF, medium trees every 35 LF, or small trees every 25 LF or some combination thereof, along the length of the screen.

Parking areas with more than 6 spaces require a berm, wall, or fence not less than 4 feet of height

All exposed parking areas of 6 or more required spaces shall be landscaped on all sides

OPEN AREA LANDSCAPING STANDARDS
Open areas include disturbed areas, storm water management areas, areas that aren't within the landscape foundation zone, vehicular harscape area, or building footprint.

Open areas shall be landscaped at the rate of 1 large tree and 3 large shrubs for every 2,000 SF of open area

PLANT DEFINITIONS AND VALUES
Large shrub: mature height of over 6'
Large tree: mature height of over 40'
Medium shrub: mature height of 3'-6'
Medium tree: mature height of 18'-39'
Small shrub: mature height of less than 3'
Small tree: mature height of less than 18'

Existing trees under 6" DBH counts as 1 large tree
Existing Trees between 6"-12" DBH counts as 2 large trees

1 large tree = 1.5 medium trees or 2 small trees
1 large shrub = 1.5 medium shrubs or 3 small shrubs

CALCULATIONS

Foundation Landscape Zone Requirements
Length of building facing Lake Dr: 100
Trees (large) required: 2
Shrubs (large) required: 6 (or 9 medium shrubs)

Proposed Landscaping for Foundation Zone
Existing trees: 2 large
Shrubs: 23 medium

Open Area Landscape Requirements
Total open area (excluding foundation landscape zone, vehicular hardscape, canopy coverage zones, building foot print) - 221,591 SF

Requirement: 221,591 / 2,000 = 111 large trees

221,591 / 2,000 = 111 * 3 shrubs per 2,000 square feet = 333 large shrubs

Proposed Landscaping for Open Area:
Existing trees: 122
*Note -- this does not include trees that have not been surveyed that are south and closer to the wetland

Proposed number of shrubs: 49
*Note - majority of the open area consists of the existing forest in which we are not touching. More survey data is needed in order to determine which additional areas are occupied with mature trees in good condition.

811 Know what's below. Call before you dig.

NORTH
SCALE: 1" = 30'

30 15 0 30 60

PLOTTING NOTE: PLANS PLOTTED TO 11x17 SHEET SIZE ARE ½ SCALE- 1"=60'

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LANDSCAPE REQUIREMENTS

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CANOPY REQUIREMENTS:

Minimum canopy coverage requirement is 40%

Canopy coverage equation:
SF of vehicular hardscape x 0.4 = SF of required canopy coverage

CANOPY COVER VALUE

Trees planted within parking lot islands:
Large trees: 950 SF
Medium trees: 500 SF
Small trees: 250 SF

Existing trees 6-12" dbh: 1900 SF
Existing trees 12+" dbh: 2850 SF

Trees planted within less than 7' of vehicular hardscape edge
Large tree: 600 SF
Medium tree: 250 SF
Small tree: 125 SF

Existing trees 6-12" dbh: 950 SF
Existing trees 12+" dbh: 1425 SF

Trees planted 7'-12' from vehicular hardscape edge:
Large tree: 300 SF
Medium tree: 125 SF

Existing trees do not have to be within 7' of the hardscape when the dripline is in proximity to the hardscape

*Existing trees are drawn to scale based on survey data

CANOPY COVERAGE CALCULATIONS:

Minimum canopy coverage requirement
66,666 SF of vehicular hardscape x 0.4 = 26,666 SF

Existing tree canopy coverage:
Number of existing trees within 7' of vehicular hardscape edge:
3 trees between 6-12" dbh (950 SF per tree)
1 tree 12"+ dbh (1,425 SF)

Number of existing trees 7'-12' from hardscape edge:
11 trees between 6-12" dbh (425 SF per tree)

Existing tree canopy coverage calculations:
950 SF * 3 trees = 2,850 SF
425 SF * 11 trees = 4,675 SF
1,425 SF * 1tree = 1,425 SF

2,850 SF + 4,675 SF + 1,425 SF = 8,950 SF for existing trees

Proposed tree canopy coverage:
Parking lot islands:
2 large (950 SF ea)
2 medium (500 SF ea)

Trees planted within less than 7' of vehicular hardscape edge:
25 large (600 SF ea)

Proposed tree canopy coverage calculations:
950 SF * 2 trees = 1,900 SF
500 SF * 2 trees = 1,000 SF
600 SF * 25 trees = 15,000 SF

1,900 SF + 1,000 SF + 15,000 SF = 17,900 SF for proposed trees

OVERALL PROVIDED CANOPY COVERAGE
17,900 SF proposed + 8,950 SF existing = 26,850 SF

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CANOPY COVERAGE PLAN

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SHEET **L2.1**

INSITES 22-009 PM J.V.

(PUBLIC ROAD)

16" DIP

MATCH EX.

CAR WASH
FFE=903.0

CONVENIENCE STORE
FFE=904.0

ALL TREES WITHIN BASIC USE AND DISTURBED AREAS TO BE REMOVED

TOP TANKS 897.02

10" PVC

16" DIP

(PUBLIC ROAD)

TREE PRESERVATION:

Care shall be taken to avoid removing, pruning, or otherwise wounding oaks during the active wilting period between April and July. If removals must be done in the winter they must be completed before March 31st, 2023.

For areas that are not environmentally sensitive (Non-ESA)

TREE PRESERVATION FOR BASIC USE AREA:
Trees removed within basic use area that are 6" dbh and over do not have to be replaced

Number of trees removed in basic use area: 240

Note: Existing trees to remain are drawn to scale and are in green

TREE PRESERVATION OUTSIDE OF BASIC USE AREA
Tree location not within basic use area: 1 tree to be replaced per 1 tree removed, if the tree is 6-12" dbh. 2 trees to be replaced per 1 tree removed, if the tree is over 12" dbh

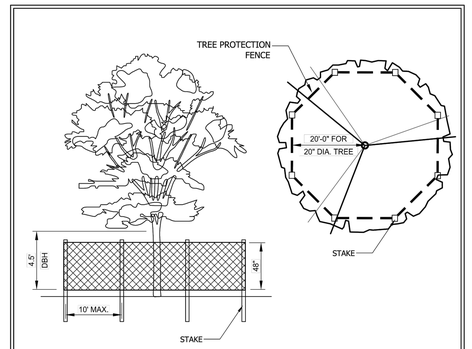
No trees were removed outside of the basic use area, thus no trees will be replaced for this area.

For areas that are a Natural Resource Corridor Enhancement Area / Natural Resource Protected Area:

TREE PRESERVATION OUTSIDE OF BASIC USE AREA
If a tree is removed outside of the basic use area, for every 1 tree 6-12" dbh removed, replace with 2 trees and for every 1 tree over 12" dbh removed, replace with 3 trees.

CALCULATIONS
Trees removed:
6-12" dbh: TBD - waiting for an additional survey
over 12" dbh: TBD - waiting for an additional survey

Trees to be replaced: TBD



Notes:

1. Tree protection fence shall be installed prior to any other construction activity taking place on site and shall not be removed until construction is complete.
2. Fence shall be placed a minimum of 1 foot per caliper inch DBH (diameter at breast height, measured at 4.5' above grade) away from trunk of tree to be saved.
3. Groups of trees may share a tree protection fence, provided the distances in note #1 can be maintained, and as approved by the City Forester.
4. Fence shall be 48" orange safety fence, anchored with 6' metal t-posts or 2" by 2" wooden stakes placed a maximum of 10' apart. Substitutions in materials must be approved by City Forester.
5. No grading, storage, parking, or any other vehicular traffic or construction activity shall occur within protection fence, including during fence installation and removal.
6. If there are incursions into the tree protection zone, the trees may be deemed damaged by the City Forester. These trees may have to be mitigated for through the planting of additional trees.

CITY OF LINO LAKES	TREE PROTECTION FENCE DETAIL	DECEMBER 2020
		GEN-29

Know what's below. Call before you dig.

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30 15 0 30 60

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FAX (608) 781-8960

INSITES
SITE PLANNING LANDSCAPE ARCHITECTURE:
3131 Fernbrook Lane North, STE 260
Plymouth Minnesota 55447
763.383.8400
fax 763.383.8440

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

Date 25JAN23 License No. 19306

Signed Robert J. Mueller

TREE PRESERVATION PLAN

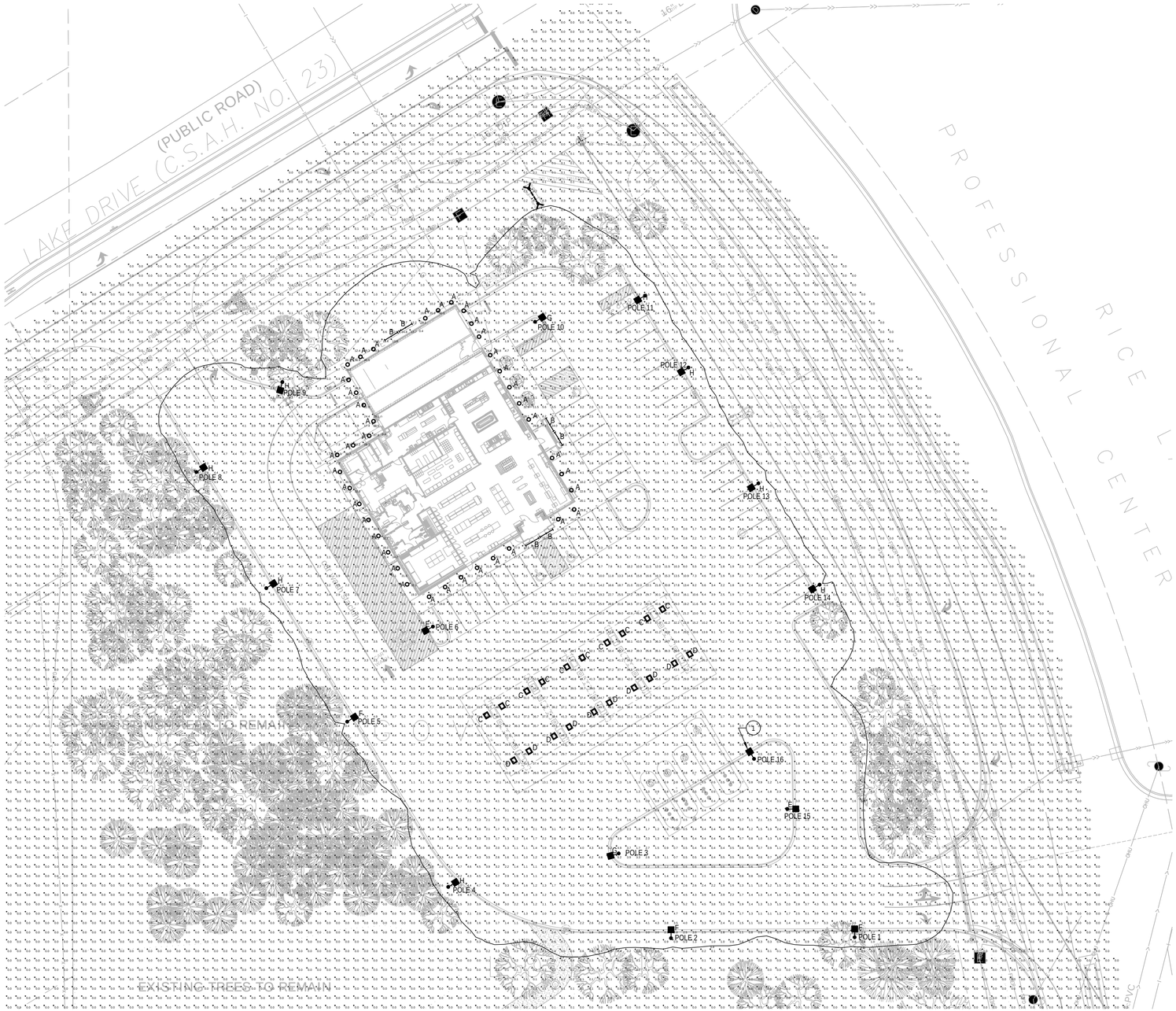
CONVENIENCE STORE 1266

-- LINO LAKES, MINNESOTA

NO.	DATE	DESCRIPTION
-	22APR25	INTERNAL REVIEW
-	22MAY25	SUBMITTAL
-	22MAY20	ROW WAYSITE SHIFT
-	22JUN27	CITY COMMENTS
-	05AUG22	RCWD COMMENTS
-	1 3SEP22	BID SET/CITY COMMENTS
-	1 5SEP22	BID SET
-	1 6NOV22	CITY COMMENTS
-	11JAN23	CITY COMMENTS
-	31JAN23	CITY COMMENTS
-	09FEB23	ANOKA COUNTY COMMENTS
-	1 5FEB23	CONSTRUCTION

DRAWN BY	
SCALE	GRAPHIC
PROJ. NO.	22-1266
DATE	04-25-22
SHEET	L2.2

INSITES 22-009 PM JV.



PHOTOMETRIC SITE PLAN
SCALE: 1" = 30'-0"

CALCULATION STATISTICS

OVERALL SITE:
AVERAGE: 2.6
MAXIMUM: 56.2
MINIMUM: 0.0

FIXTURE SYMBOLS:

C & D — LED LIGHT MOUNTED UNDER FUEL CANOPIES

B — LED STRIP LIGHT MOUNTED IN GABLE

A — RECESSED LED DOWNLIGHT

E, F, G & H — POLE MOUNTED LED FIXTURE

NOTE:

1. FOOTCANDLE LEVELS SHOWN ON THIS PLAN ARE CALCULATED SIX INCHES ABOVE GRADE LEVEL.

KEYED NOTES:

(1) THIS POLE IS FOR CAMERA MOUNT ONLY. COORDINATE LOCATION AND MOUNTING HEIGHT OF SECURITY CAMERA WITH OWNER.

FIXTURE TYPES:

A - RECESSED LED DOWNLIGHT
GOTHAM EVO-35/30-8AR-WD-120-TRW

B - LED STRIP LIGHT MOUNTED IN GABLE
LITHONIA -TZL1N-L96-10000LM-FST-MVOLT

C - LSI LIGHTING: SCV-LED-23L-SCFT-UNV-DIM-50-WHT
MOUNTED UNDER GAS CANOPY
MOUNT FIXTURES WITH FORWARD THROW OPTIC AIMING AT STORE FRONT.

D - LSI LIGHTING: SCV-LED-15L-SC-UNV-DIM-50-WHT
MOUNTED UNDER GAS CANOPY

E - LSI LIGHTING: MRS-LED-12L-SIL-3-UNV-50-70CRI-WHT

F - LSI LIGHTING: MRS-LED-12L-SIL-3-UNV-50-70CRI-WHT-IL

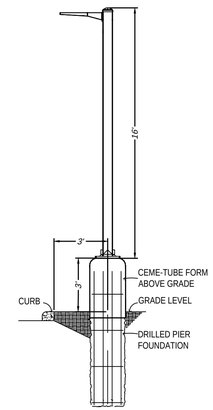
G - LSI LIGHTING: MRS-LED-12L-SIL-FT-UNV-50-70CRI-WHT

H - LSI LIGHTING: MRS-LED-12L-SIL-FT-UNV-50-70CRI-WHT-IL

FIXTURE QUANTITIES

A - 40
B - 6
C - 10
D - 10
E - 2
F - 3
G - 2
H - 8

PROVIDE (16) 16' POLES.



LOT LIGHT ELEVATION DETAIL

NOT TO SCALE

POLE 16 IS FOR CAMERA MOUNT ONLY

2022-0195.12

GRAEF
275 West Wisconsin Avenue, Suite 300
Milwaukee, WI 53203
414 / 259 1500
414 / 259 0037 fax

KWIK TRIP
KWIK STAR

KWIK TRIP, Inc.
P.O. BOX 2107
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Date XXXXXXX Reg. No. 19306

Signed
Robert J. Mueller

PHOTOMETRIC SITE PLAN

CONVENIENCE STORE 1266

LINO LAKES, MINNESOTA

NO.	DATE	DESCRIPTION
-	13SEPT22	BID SET/CITY COMMENTS
-	13FEB22	CONSTRUCTION

DRAWN BY	DLC
SCALE	GRAPHIC
PROJ. NO.	22-1266
DATE	04-25-22
SHEET	E1

INSITES 22-009 PM J.V.

KWIK TRIP

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P.O. BOX 2107
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LACROSSE, WI 54602-2107
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Sunde Engineering, PLLC.

SUNDE ENGINEERING, PLLC.
10830 NESBITT AVENUE SOUTH
BLOOMINGTON, MINNESOTA 55437
(952) 881-3344 TELEPHONE
(952) 881-1913 FAX
www.sundecivil.com

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

Brian H. Lundstedt

Brian H. Lundstedt

DATE: 02/13/23 REG. NO. 23468

PROPOSED CONDITIONS DRAINAGE AREA MAP

CONVENIENCE STORE 1266

-- LINO LAKES, MINNESOTA

NO.	DATE	DESCRIPTION
-	05MAY22	SUBMITTAL
-	20MAY22	ROW / SITE SHIFT
-	27JUN22	CITY COMMENTS
-	05AUG22	RCWD COMMENTS
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-	31JAN23	CITY COMMENTS
-	09FEB23	ANOKA COUNTY COMMENTS
-	13FEB23	CONSTRUCTION

DRAWN BY

SCALE: GRAPHIC

PROJ. NO.: 22-1266

DATE: 04-25-22

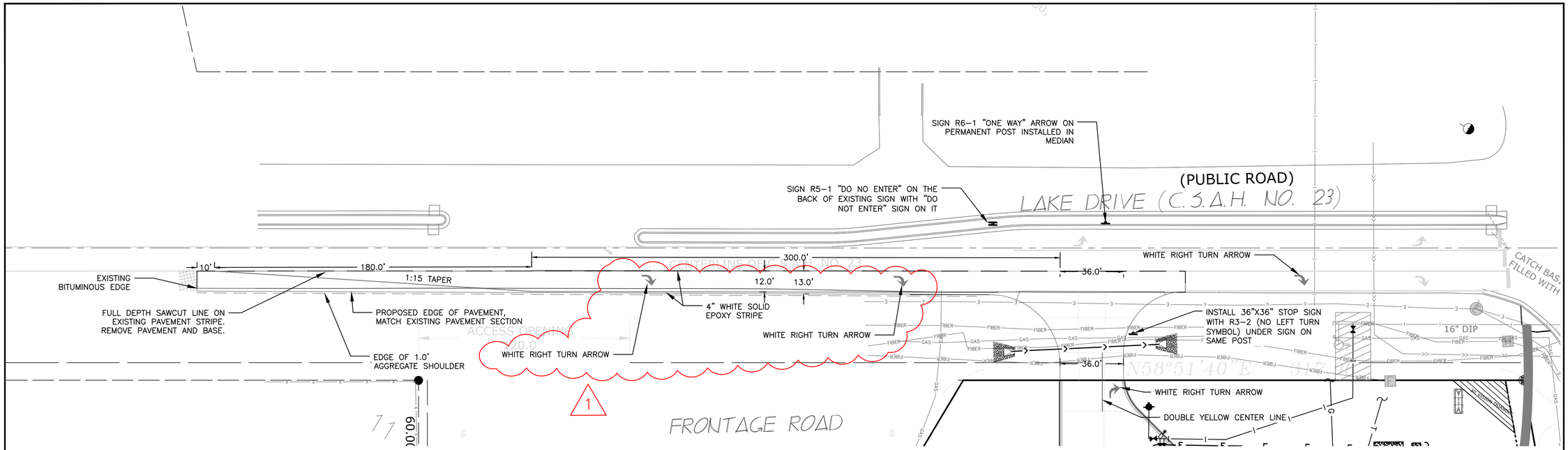
SHEET: PC

NORTH
SCALE: 1" = 60'

60 30 0 60 120

PLOTTING NOTE: PLANS PLOTTED TO 11x17 SHEET SIZE ARE ½ SCALE- 1"=120'

KWIK TRIP PM J.V.



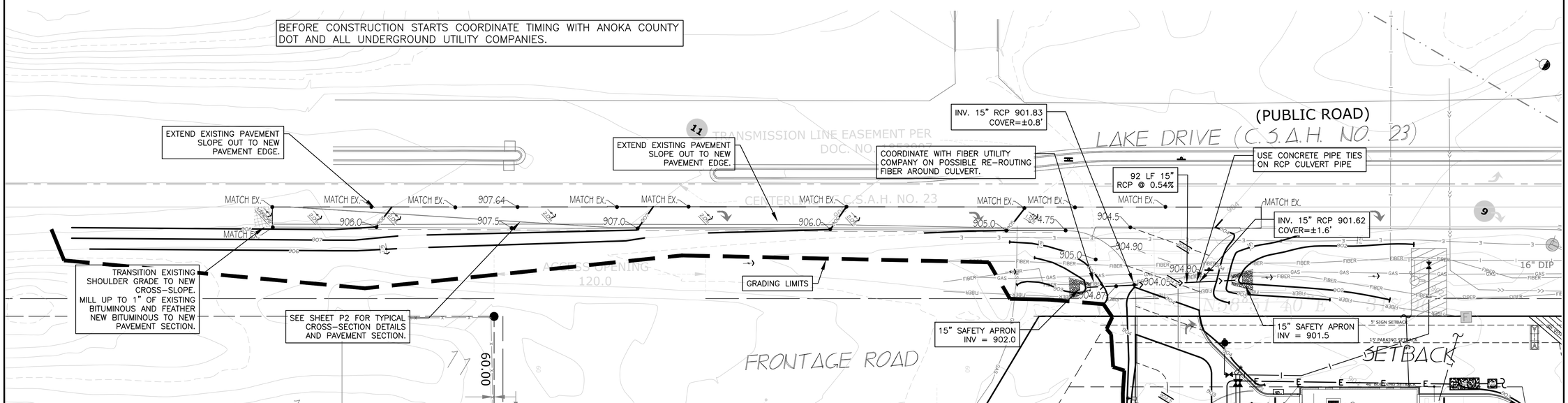
GENERAL PAVING INFORMATION:

PAVING AND STRIPING

1. SEE 2582.3 SECTIONS B APPLICATION AND C ACCEPTANCE IN THE SPECIAL PROVISIONS FOR PAVEMENT MARKING SPOTTING RESPONSIBILITIES.
2. ANOKA COUNTY HIGHWAY DEPARTMENT WILL PERFORM SPOTTING FOR THE STRIPING AND INSPECTION AND SHOULD BE COORDINATED THROUGH THE ACHD PERMITTING.
3. EDGE LINES AND LANE LINES ARE TO BE BROKEN ONLY AT INTERSECTIONS WITH PUBLIC ROADS, AND AT PRIVATE ENTRANCES IF THEY ARE CONTROLLED BY AN AGENCY PLACED YIELD SIGN, STOP SIGN OR TRAFFIC SIGNAL. THE BREAK POINT IS TO BE AT THE START OF THE MAINLINE RADIUS.
4. DO NOT APPLY THE PAVEMENT MARKINGS WHEN WEATHER AND OTHER CONDITIONS CAUSE A FILM OF DUST OR DEBRIS TO BE DEPOSITED ON THE PAVEMENT SURFACE AFTER CLEANING AND BEFORE THE MARKING MATERIAL IS APPLIED.
5. THE FILLING OF TANKS, POURING OF MATERIALS OR CLEANING OF EQUIPMENT SHALL NOT BE PERFORMED ON UNPROTECTED PAVEMENT SURFACES UNLESS ADEQUATE PROVISIONS ARE MADE TO PREVENT SPILLAGE OF MATERIAL.

NORTH
SCALE: 1" = 30'
30 15 0 30 60

BEFORE CONSTRUCTION STARTS COORDINATE TIMING WITH ANOKA COUNTY DOT AND ALL UNDERGROUND UTILITY COMPANIES.



GRADING AND UTILITIES PLAN

KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LACROSSE, WI 54602-2107
PH. (608) 781-8988
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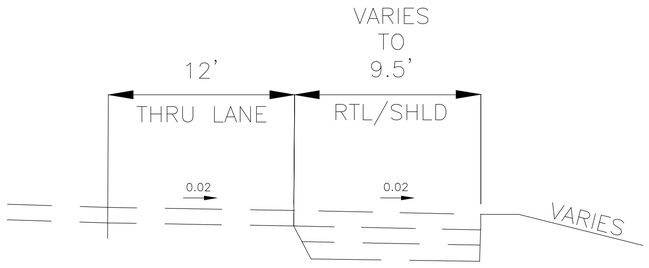
Brian H. Mundstock
DATE: 02/13/23 REG. NO. 23468

LAKE DRIVE TURN LANE PLAN
CONVENIENCE STORE 1266
LINO LAKES, MINNESOTA

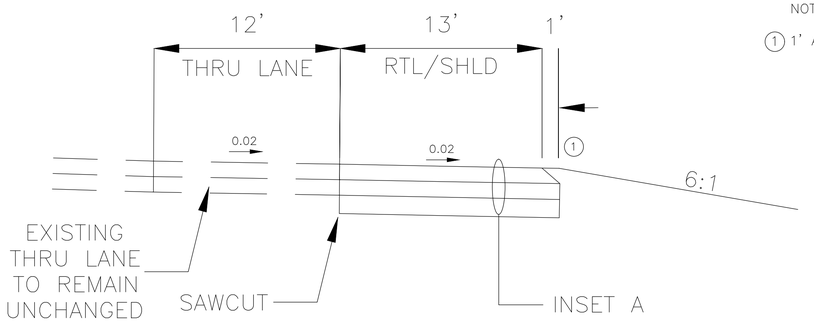
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-	13FEB23	CONSTRUCTION
1	27FEB23	ANOKA COUNTY COMMENTS

DRAWN BY
SCALE GRAPHIC
PROJ. NO. 22-1266
DATE 04-25-22
SHEET **P1**

KWIK TRIP PM: J.V.



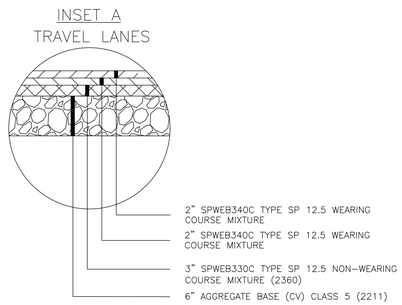
EXISTING SHOULDER TYPICAL SECTION

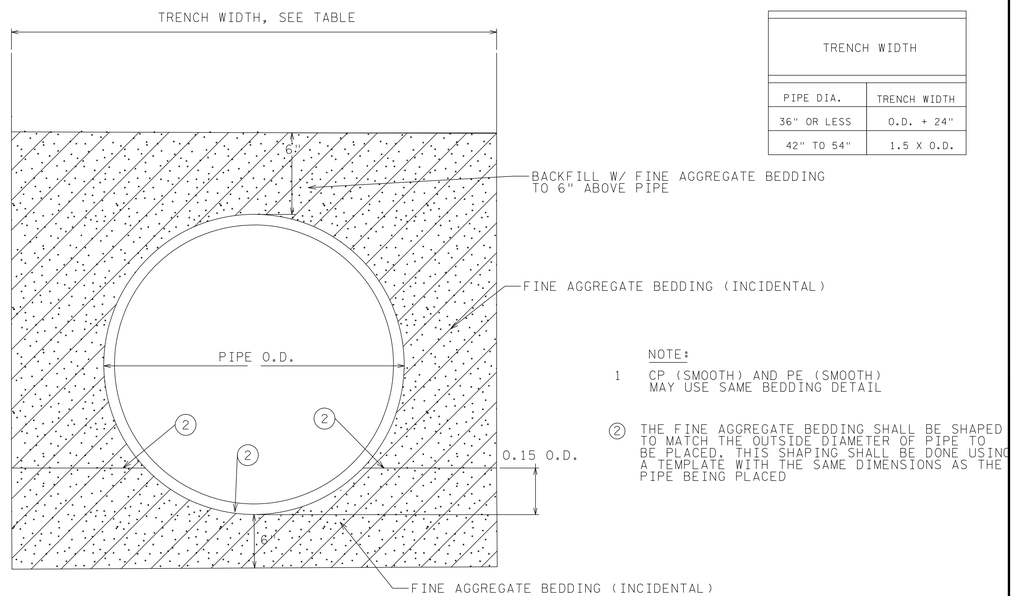


NOTES:

(1) 1' AGGREGATE SURFACING (CV) CLASS 2

PROPOSED SHOULDER/RIGHT TURN LANE TYPICAL SECTION





TRENCH WIDTH	
PIPE DIA.	TRENCH WIDTH
36" OR LESS	O.D. + 24"
42" TO 54"	1.5 X O.D.

NOTE:

1 CP (SMOOTH) AND PE (SMOOTH) MAY USE SAME BEDDING DETAIL

(2) THE FINE AGGREGATE BEDDING SHALL BE SHAPED TO MATCH THE OUTSIDE DIAMETER OF PIPE TO BE PLACED. THIS SHAPING SHALL BE DONE USING A TEMPLATE WITH THE SAME DIMENSIONS AS THE PIPE BEING PLACED

STORM SEWER, CULVERT, AND PE PIPE BEDDING DETAIL

KWIK TRIP

KWIK STAR

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P.O. BOX 2107
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LACROSSE, WI 54602-2107
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Brian H. Mundstock

Brian H. Mundstock

DATE: 02/13/23 REG. NO.: 23468

LAKE DRIVE DETAILS

CONVENIENCE STORE 1266

-- LINO LAKES, MINNESOTA

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-	27JUN22	CITY COMMENTS
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-	13FEB23	CONSTRUCTION

DRAWN BY

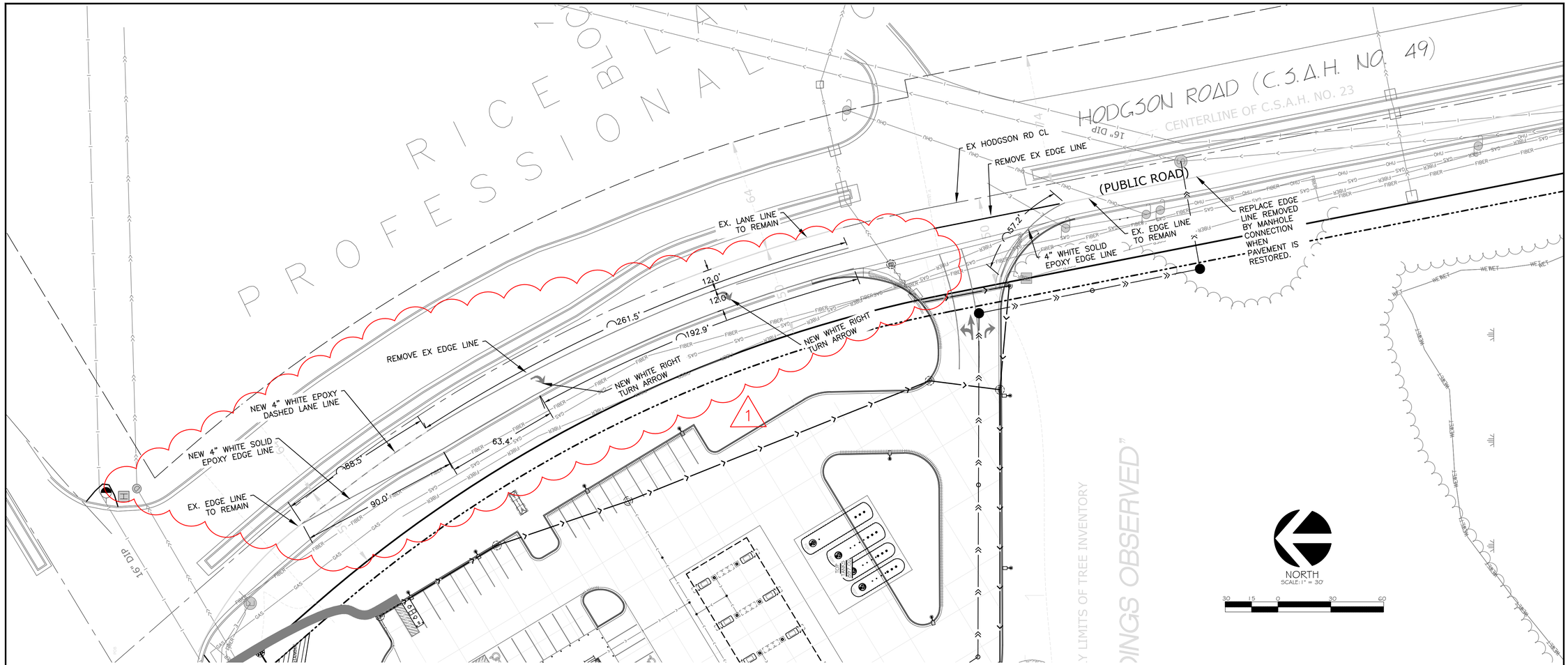
SCALE GRAPHIC

PROJ. NO. 22-1266

DATE 04-25-22

SHEET P2

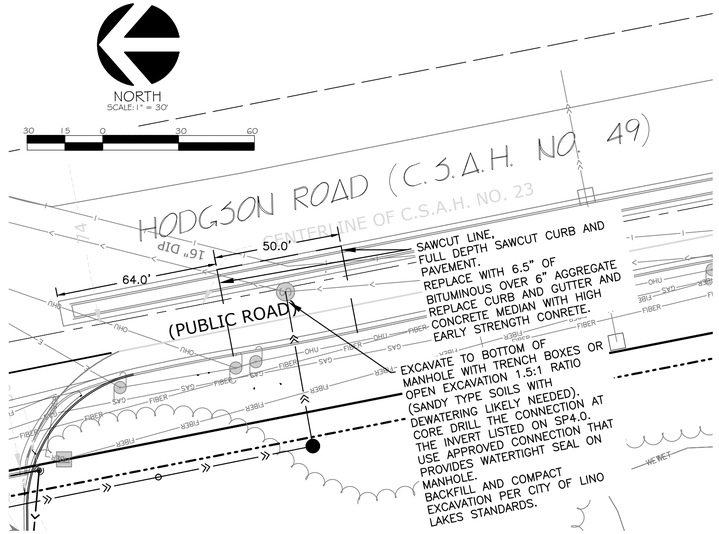
KWIK TRIP P.M. J.V.



STRIPING PLAN

GENERAL PAVING INFORMATION:

1. SEE 2582.3 SECTIONS B APPLICATION AND C ACCEPTANCE IN THE SPECIAL PROVISIONS FOR PAVEMENT MARKING SPOTTING RESPONSIBILITIES.
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4. DO NOT APPLY THE PAVEMENT MARKINGS WHEN WEATHER AND OTHER CONDITIONS CAUSE A FILM OF DUST OR DEBRIS TO BE DEPOSITED ON THE PAVEMENT SURFACE AFTER CLEANING AND BEFORE THE MARKING MATERIAL IS APPLIED.
5. THE FILLING OF TANKS, POURING OF MATERIALS OR CLEANING OF EQUIPMENT SHALL NOT BE PERFORMED ON UNPROTECTED PAVEMENT SURFACES UNLESS ADEQUATE PROVISIONS ARE MADE TO PREVENT SPILLAGE OF MATERIAL.



SANITARY MANHOLE CONNECTION

KWIK TRIP

KWIK STAR

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P.O. BOX 2107
1626 OAK STREET
LACROSSE, WI 54602-2107
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Brian H. Mundstock

Brian H. Mundstock
DATE: 02/13/23 REG. NO. 23468

HODGSON ROAD TURN LANE PLAN

CONVENIENCE STORE 1266

LINO LAKES, MINNESOTA

NO.	DATE	DESCRIPTION
-	20MAY22	ROW / SITE SHIFT
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-	15SEP22	BID SET / CITY COMMENTS
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-	31JAN23	CITY COMMENTS
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-	13FEB23	CONSTRUCTION
1	27FEB23	ANOKA COUNTY COMMENTS

DRAWN BY KMYA, TKEP, PM: J.V.
SCALE GRAPHIC
PROJ. NO. 22-1266
DATE 04-25-22
SHEET **P3**

ALL WARNING SIGNS, CHANNELIZING DEVICES, ETC. SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ADJUST TRAFFIC CONTROL AS NECESSARY FOR CONSTRUCTION SCHEDULE AND SEQUENCING.

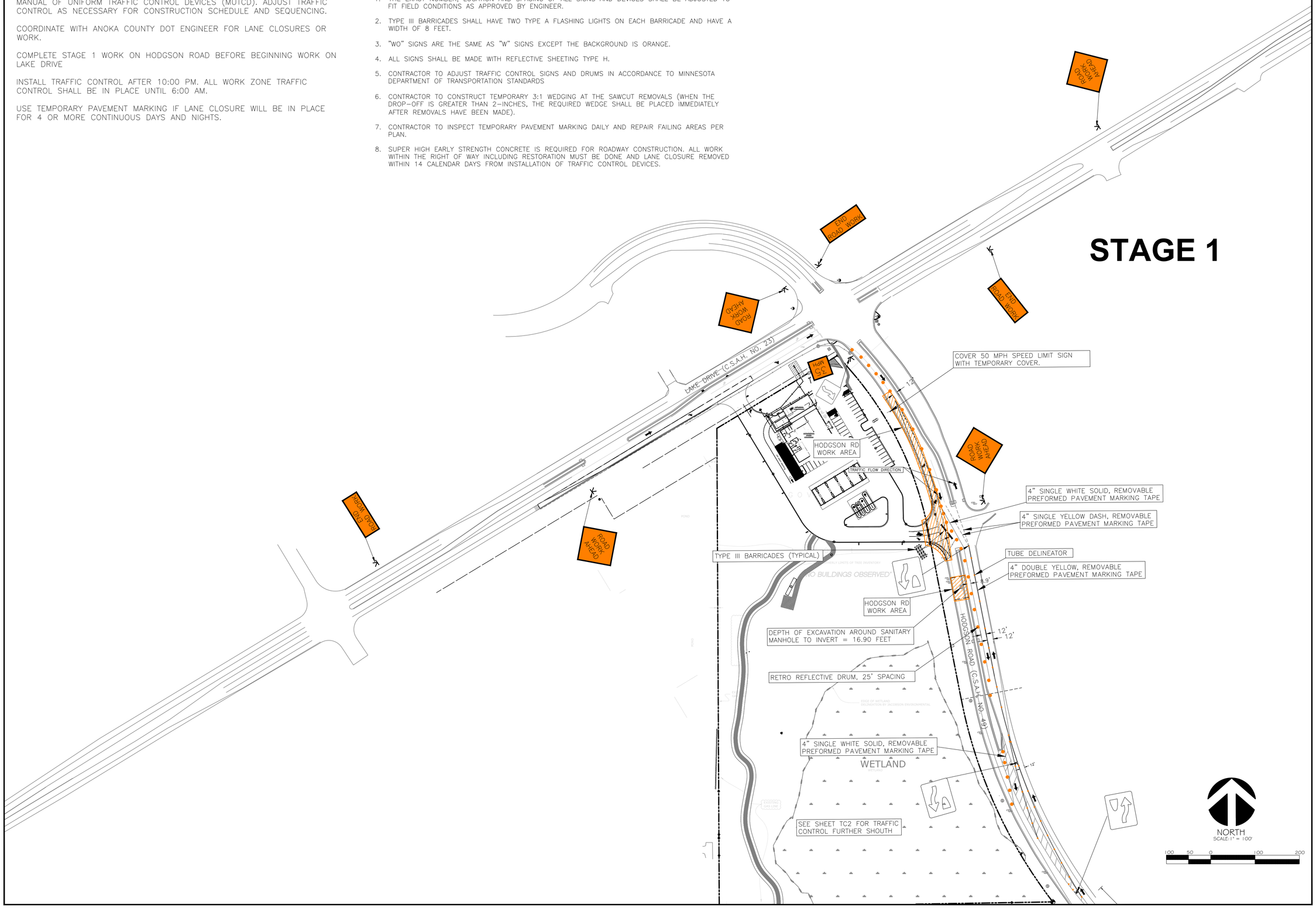
COORDINATE WITH ANOKA COUNTY DOT ENGINEER FOR LANE CLOSURES OR WORK.

COMPLETE STAGE 1 WORK ON HODGSON ROAD BEFORE BEGINNING WORK ON LAKE DRIVE

INSTALL TRAFFIC CONTROL AFTER 10:00 PM. ALL WORK ZONE TRAFFIC CONTROL SHALL BE IN PLACE UNTIL 6:00 AM.

USE TEMPORARY PAVEMENT MARKING IF LANE CLOSURE WILL BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

NOTES:
1. THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY ENGINEER.
2. TYPE III BARRICADES SHALL HAVE TWO TYPE A FLASHING LIGHTS ON EACH BARRICADE AND HAVE A WIDTH OF 8 FEET.
3. "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
4. ALL SIGNS SHALL BE MADE WITH REFLECTIVE SHEETING TYPE H.
5. CONTRACTOR TO ADJUST TRAFFIC CONTROL SIGNS AND DRUMS IN ACCORDANCE TO MINNESOTA DEPARTMENT OF TRANSPORTATION STANDARDS
6. CONTRACTOR TO CONSTRUCT TEMPORARY 3:1 WEDGING AT THE SAWCUT REMOVALS (WHEN THE DROP-OFF IS GREATER THAN 2-INCHES, THE REQUIRED WEDGE SHALL BE PLACED IMMEDIATELY AFTER REMOVALS HAVE BEEN MADE).
7. CONTRACTOR TO INSPECT TEMPORARY PAVEMENT MARKING DAILY AND REPAIR FAILING AREAS PER PLAN.
8. SUPER HIGH EARLY STRENGTH CONCRETE IS REQUIRED FOR ROADWAY CONSTRUCTION. ALL WORK WITHIN THE RIGHT OF WAY INCLUDING RESTORATION MUST BE DONE AND LANE CLOSURE REMOVED WITHIN 14 CALENDAR DAYS FROM INSTALLATION OF TRAFFIC CONTROL DEVICES.



STAGE 1

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Brian H. Mundstock

DATE: 02/13/23 REG. NO.: 23468

TRAFFIC CONTROL PLAN, STAGE 1

CONVENIENCE STORE 1266

-- LINO LAKES, MINNESOTA

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DRAWN BY

SCALE GRAPHIC

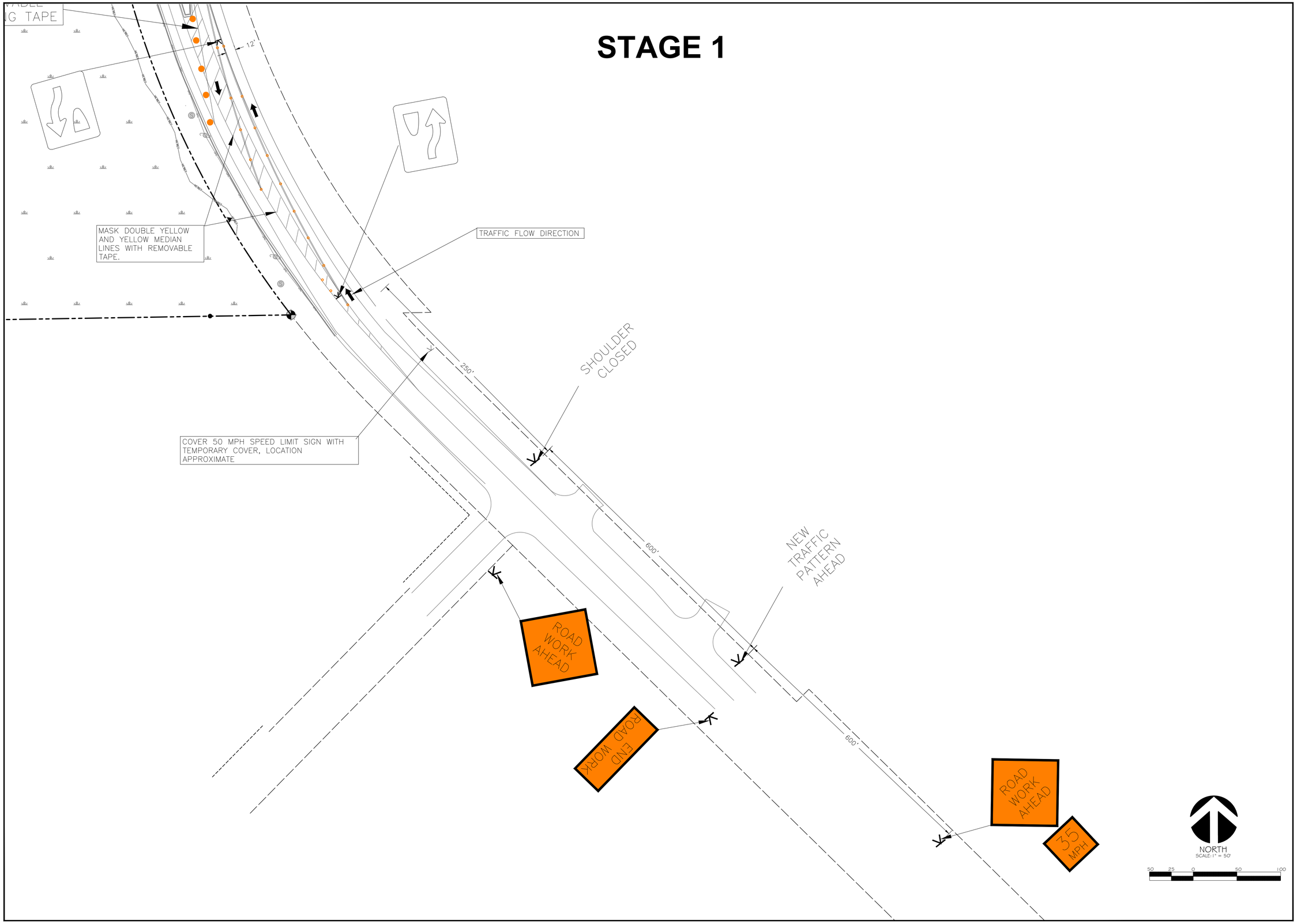
PROJ. NO. 22-1266

DATE 04-25-22

SHEET **TC1**

KWIK TRIP P.M.J.V.

STAGE 1



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TRAFFIC CONTROL PLAN, STAGE 1

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-	13FEB23	CONSTRUCTION

DRAWN BY

SCALE GRAPHIC

PROJ. NO. 22-1266

DATE 04-25-22

SHEET **TC2**

KWIK TRIP P.M.J.V.

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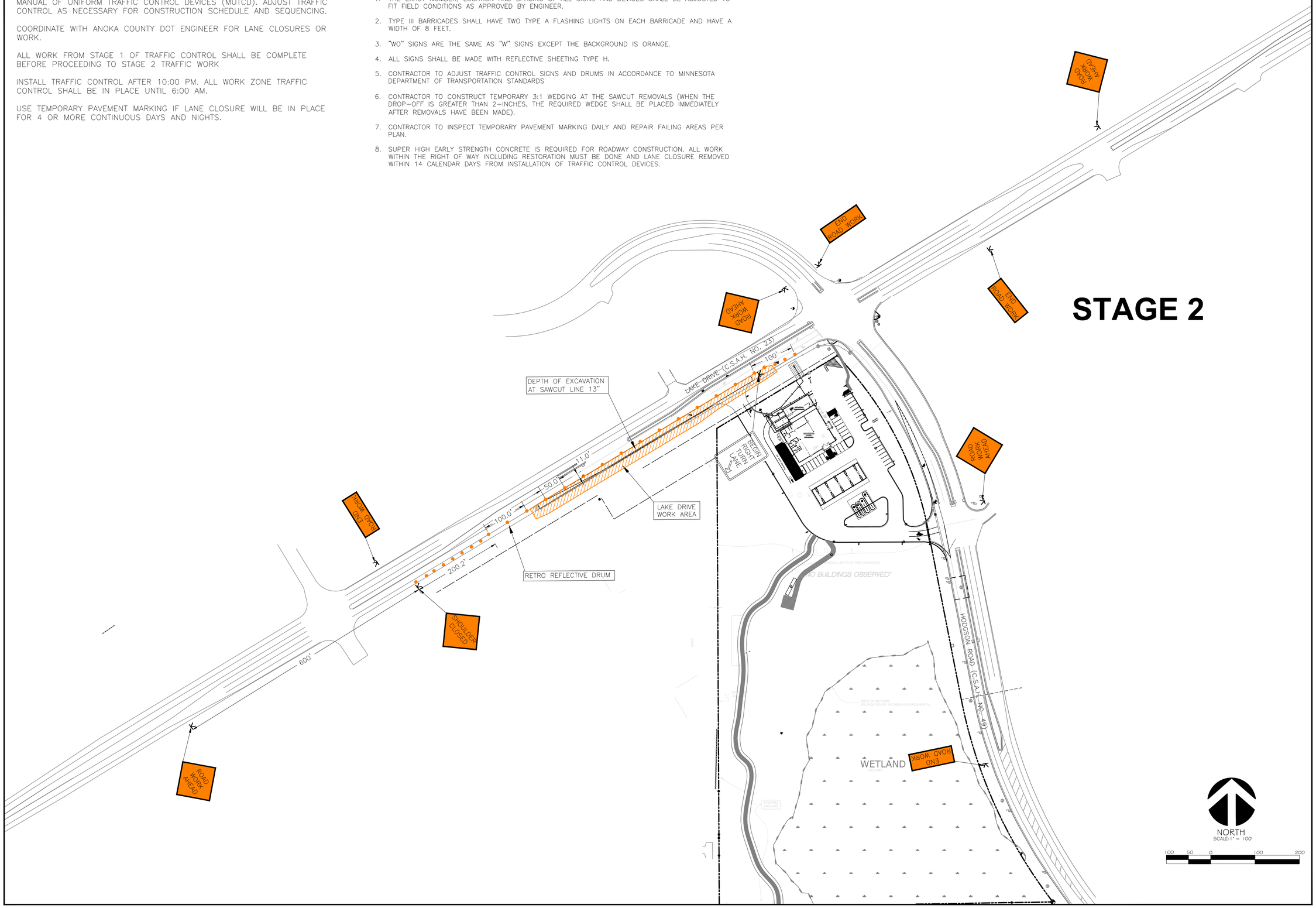
COORDINATE WITH ANOKA COUNTY DOT ENGINEER FOR LANE CLOSURES OR WORK.

ALL WORK FROM STAGE 1 OF TRAFFIC CONTROL SHALL BE COMPLETE BEFORE PROCEEDING TO STAGE 2 TRAFFIC WORK

INSTALL TRAFFIC CONTROL AFTER 10:00 PM. ALL WORK ZONE TRAFFIC CONTROL SHALL BE IN PLACE UNTIL 6:00 AM.

USE TEMPORARY PAVEMENT MARKING IF LANE CLOSURE WILL BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

NOTES:
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6. CONTRACTOR TO CONSTRUCT TEMPORARY 3:1 WEDGING AT THE SAWCUT REMOVALS (WHEN THE DROP-OFF IS GREATER THAN 2-INCHES, THE REQUIRED WEDGE SHALL BE PLACED IMMEDIATELY AFTER REMOVALS HAVE BEEN MADE).
7. CONTRACTOR TO INSPECT TEMPORARY PAVEMENT MARKING DAILY AND REPAIR FAILING AREAS PER PLAN.
8. SUPER HIGH EARLY STRENGTH CONCRETE IS REQUIRED FOR ROADWAY CONSTRUCTION. ALL WORK WITHIN THE RIGHT OF WAY INCLUDING RESTORATION MUST BE DONE AND LANE CLOSURE REMOVED WITHIN 14 CALENDAR DAYS FROM INSTALLATION OF TRAFFIC CONTROL DEVICES.



STAGE 2

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

SUNDE ENGINEERING, PLLC.
10830 NESBITT AVENUE SOUTH
BLOOMINGTON, MINNESOTA 55437
(952) 881-3344 TELEPHONE
(952) 881-1913 FAX
www.sundecivil.com

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

Brian H. Mundstock

Brian H. Mundstock

DATE: 02/13/23 REG. NO.: 23468

TRAFFIC CONTROL PLAN, STAGE 2

CONVENIENCE STORE 1266

-- LINO LAKES, MINNESOTA

NO.	DATE	DESCRIPTION
-	05MAY22	SUBMITTAL
-	20MAY22	ROW / SITE SHIFT
-	27JUN22	CITY COMMENTS
-	05AUG22	RCWD COMMENTS
-	13SEP22	BID SET / CITY COMMENTS
-	16NOV22	CITY COMMENTS
-	11JAN23	CITY COMMENTS
-	31JAN23	CITY COMMENTS
-	09FEB23	ANOKA COUNTY COMMENTS
-	13FEB23	CONSTRUCTION

DRAWN BY

SCALE GRAPHIC

PROJ. NO. 22-1266

DATE 04-25-22

SHEET **TC3**

KWIK TRIP P.M.J.V.