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TOWN OF NEWBURGH
PLANNING BOARD
TECHNICAL REVIEW COMMENTS

PROJECT:	**BJ'S WHOLESALE CLUB-NEWBURGH**
PROJECT NO.:	**19-07**
PROJECT LOCATION:	**SECTION 97, BLOCK 2, LOT 27.32, 44, 45, & 46.2**
REVIEW DATE:	**30 MAY 2019**
MEETING DATE:	**6 JUNE 2019**
PROJECT REPRESENTATIVE:	**MASER CONSULTING, P.A.**

1. The Stormwater Pollution Prevention Plan for the site should be prepared. The Stormwater Pollution Prevention Plan should address the stormwater hotspot use incorporated into the site plan involving the fuel dispensing use on the site.

2. The Planning Board should address whether sidewalks should be provided along NYS Route 17K. The Planning Board has had success in providing safe pedestrian routing along NYS Route 300 in the vicinity of the project. The Applicant's response identified some sidewalk at the project entrance drive which is not currently depicted on the plans.

3. Sizing calculations for the proposed grease trap on the sanitary line should be provided in accordance with NYSDEC design guidelines.

4. The location of the water main within Route 17K should be further evaluated. The Town Engineer's comments regarding the use of 90 degree bends on the water main should be received. Code Enforcement Office and jurisdictional Fire Department comments regarding location of hydrants on the site should be received.

5. A water service is depicted to the gasoline fueling island. Water Department comments regarding multiple water services to one parcel should be received.

6. The Applicant's representative requested to evaluate the location of a temporary sediment basin A as an existing stormwater management piping and facilities are located within this area.

7. The bio retention system cross section identifies Outlet Control Structure detail this sheet. No outlet control structure detail is depicted.

8. Infiltration testing for the storm tech system should be provided.

9. City of Newburgh flow acceptance letter should be provided for the Planning Board's files.

10. NYSDOT comments regarding access drive should be provided.

11. The Planning Board is advised that the Applicants response letter identifies that the intersection of the main access road with the bus transportation facility north of the site meets the warrants for traffic control signals. Ken Wersted's comments regarding the traffic study will be received.

12. Water main details, hydrants, thrust restraint chart should be provided with the next submission.

13. The Applicant's representative are requested to evaluate the need for fencing at the stormwater management facilities and vehicle protection in the vicinity of the stormwater management facility.

14. Details of the proposed contact Filterra water quality device should be included in the plans.

Respectfully submitted,

McGoey, Hauser and Edsall
Consulting Engineers, D.P.C.

_____
Patrick J. Hines
Principal
PJH/lcr

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July 11, 2019

VIA HAND DELIVERY

Mr. John Ewasutyn
Planning Board Chairman
Town of Newburgh
308 Gardnertown Road
Newburgh, NY 12550

Re: BJ's Wholesale Club
Tax Lots 97-2-44, 46.2 & 45
Town of Newburgh, Orange County, New York
MC Project No. 18000471A

Dear Chairman Ewasutyn:

Below please find our responses to a comment letter received from McGoey, Hauser & Edsall Consulting Engineers D.P.C., dated June 20, 2019 and a comment letter received from Creighton Manning, dated June 19, 2019. The comments have been repeated here for clarity.

McGoey, Hauser & Edsall:

Comment 1: The Applicants have provided a Stormwater Pollution Prevention Plan which is under review by this office. It is noted that the latest set of plans have an additional under parking storage system located in front of the proposed structure.

Response 1: Comment noted. Correct.

Comment 2: The Applicants have provided a sidewalk along the NYS Route 17 property frontage.

Response 2: Correct.

Comment 3: The vehicle display areas have been enlarged along the property frontage. A detail of the vehicle display areas should be provided. Twelve (12) vehicle display areas are currently depicted on the site. Ten (10) along the frontage and two (2) at Unity Drive.

Response 3: A vehicle display pad detail has been added to the plans.

Comment 4: The most recent site package contains a photo depiction and information regarding the propane refill station for the Board's review.

Response 4: Correct.

Comment 5: Schematic Architecturals have been submitted for the Boards use including a color palate proposed to be utilized.

Response 5: Correct.

Comment 6: A City of Newburgh Flow Acceptance letter is required prior to Final Approval. The Applicants representative is requested coordinate same with Jim Osborne's office.

Response 6: Letter submitted to Jim Osborne on June 20, 2019. Maser is currently awaiting response and will forward to the Planning Board once received.

Comment 7: Grease trap sizing has been deferred for further evaluation.

Response 7: A grease trap sizing calculation has been provided by BJ's Wholesale Club and has been attached as part of this submission.

Comment 8: Applicants are seeking comments from Jurisdictional Fire Department as well as Town Engineer and Water Department regarding water flow.

Response 8: Comment noted.

Comment 9: NYSDOT comments on the access drive should be received.

Response 9: We are waiting for feedback from NYSDOT. We will forward comments to the Planning Board once received. The project has received a SEQRA number (19-146) and reviewer (Jason Brennan) from the DOT.

Comment 10: Plans currently have sufficient detail to allow for submission to the Orange County Planning Department for 239 review.

Response 10: Comment noted.

Comment 11: Potable water service and fire service line must be connected such that when fire service is turned off potable water to the structure is turned off, typical details should be provided.

Response 11: This connection type has been depicted on the utility plan. Additionally, a detail has been added to the plan.

Comment 12: The proposed grading will impact existing fence along property line to the east.

Response 12: The proposed layout will replace the existing chain link fence in kind and provide additional fencing.

Comment 13: Adjacent properties drain onto this property and are provided with connections to the proposed Stormwater Management Facilities. Planning Board Attorney's comments regarding the need for cross drainage easements should be provided.

Response 13: The proposed design maintains existing drainage patterns to the site. All necessary drainage easements will be prepared as required.

Comment 14: A Stormwater Facilities Management Agreement for all parcels involved in the project will need to be executed prior to Final Approval to assure long term operation and maintenance of stormwater features and Stormwater Management Facilities.

Response 14: Understood. These agreements will be prepared and submitted for approval.

Comment 15: Building sanitary sewer profile's lower left hand corner sheet #6 of 14 appears to have transposition error in the connect to existing sanitary manhole for the 10 inch existing pvc pipe.

Response 15: The callout has been revised to show correct invert for the existing 10" pvc pipe.

Comment 16: The building sanitary sewer profile should depict water line crossings as appropriate.

Response 16: The profile has been updated to show water service crossings.

Comment 17: Health Department approval for water main extensions with hydrants are required. Copies of all submissions to Health Departments should be provided to Planning Board.

Response 17: A copy of the Health Department submission will be provided to the Board once submitted.

Comment 18: A concrete washout area detail including plastic liner should be depicted on erosion and sediment control sheets.

Response 18: A concrete washout detail has been added to the erosion and sediment control detail sheet.

Comment 19: Standard Town of Newburgh water and sewer notes must be added to the plans.

Response 19: Note has been added as requested.

Comment 20: All connections to existing Town of Newburgh manholes must be via core drilling. Detail depicting modification to existing manholes and identifying core drill should be provided.

Response 20: A note has been added to the "sewer connection to existing manhole detail" stating connection to the exiting manhole is to be done with a core drill.

Comment 21: The location of the Bank sanitary sewer line should be identified to assure that it does not utilize what is labeled as a 8 inch pvc stub.

Response 21: The Bank is served by the pump station between the drive thru and 17K. The 8" pvc stub may be utilized for the gas station.

Creighton Manning:

Comment 1: The delay on the westbound approach of Route 17K to Route 300 will increase by approximately 20%, but no mitigation is offered. The Route 17K/Route 300 intersection is substantially built out, so widening for additional lanes is unlikely, in which case, the applicant will have to seek NYSDOT acceptance of a level of service drop. What would the traffic impact be if the conservative assumptions were tempered? Looking at the traffic volumes on the westbound approach, it appears that the right turn movement, served by a single lane, has more volume than the through movement, served by two lanes. Is there any benefit or reduction in delay if the right most through lane were to become a shared through/right?

Response 1: We have reviewed the potential for modifying the pavement markings on the Route 17K westbound approach to Route 300 to permit a shared through/right turn lane and a separate right turn lane. Such a configuration limits the ability for the westbound right turn movement to operate as an overlap with the northbound and southbound left turns on Route 300. Furthermore, it restricts right-turns on red. Reanalysis with this suggested modification indicates a reduction in level of service such that the westbound through movement experiences an increase in delay. Analysis is contained in Attachment 1.

Using the geometry that is in place with modifying the timings, the PM Peak Hour level of service can be improved on the westbound approach at a Level of Service "E" (79.9 second delay) in the 2022 Build condition versus a Level of Service "E" (78.6 second delay) in the 2022 No-Build condition. During a Saturday Peak Hour, the westbound approach under the 2022 Build condition, a Level of Service "F" (101.5 second delay) will exist versus a Level of Service "F" (103.7 second delay) in the 2022 No-Build condition.

Overall, during the PM Peak Hour, intersection delay will increase by 3.5 seconds (2022 No-Build, 52.9 seconds to 2022 Build, 56.4 seconds) and on a Saturday the delay will increase by 7.1 seconds (2022 No-Build, 58.8 seconds to 2022 Build, 65.9 seconds). We also examined the effect of this location considering a 25% by-pass credit to the generated trips. This reduction would equate to 51 fewer vehicles during the PM Peak Hour and 64 fewer vehicles during the Saturday peak hour through the intersection. In addition, at the Route 300/Route 17K

intersection, with a 25% reduction in site generated trips, the overall PM Peak Hour Level of Service would be further improved to a Level of Service "D" (54.8 second delay) under the 2022 Build condition. The Saturday overall Level of Service will be "E" with an overall delay reduced to 63.4 seconds.

Attachment 2 contains the revised Table 2 that identifies these changes.

Any timing changes will require NYSDOT approval.

Comment 2: We generally concur with the mitigation proposed for the Route 17K/Auto Park Place intersection, which includes restriping the median to provide a two-way left turn lane and restriping Auto Park Place to provide separate left and right turn lanes. We note that the approach of Auto Park Place is currently about 16 feet wide, so restriping will require narrowing the southbound lane leaving the intersection. Given the volume of truck deliveries to the site and car loaders to the adjacent dealerships, truck turning movements should be reviewed and adequate loading/unloading activities currently take place on Unity Place and Auto Park Place and how it will be accommodated with the additional traffic generated by the proposed development.

Response 2: We would expect trucks originating from the I-87 northbound and from the west on Route 17K to use Unity Place for access to Auto Park Place. Attachment 3 contains the truck turning tracks for right turns onto Auto Park Place from Route 17K. As identified, under existing conditions, a car carrier turning onto Auto Park Place must track into the opposing traffic whether from the inside or outside Route 17K travel lane. As such, we suggest directing all truck deliveries from the west destined to Auto Park Place to use Unity Place.

Comment 3: The site plan proposes to close the southernmost Riverside Bank driveway and open BJ's Unity Place driveway to two-way traffic. The connection from the BJ's access aisle to the bank drive-through remains, as do our concerns for BJ's customers cutting through the drive-through. How many cars (average and maximum) queue in the drive-through lanes? Will they spill back into the BJ's drive aisle? Can the bank's generator be relocated and the drive-through wrap around the bank aisle on the east side of the building?

Response 3: We have narrowed the entrance to the drive thru to 18' and proposed signage for drive thru banking only. Queuing available for the bank drive thru is approximately 150' in length, times 3 lanes. Queuing has not been a problem in the past and can be relieved by the bank opening additional lanes.

Comment 4: A sidewalk has been added to the plans along the project frontage, consistent with the practice of other recent projects in the Town.

Response 4: Correct.

Comment 5: Comments from NYSDOT are reportedly pending. Their input is an important element in the continued development of the site plan and access.

Response 5: See response #9 to MHE comments.

Very truly yours,

MASER CONSULTING P.A.

Andrew B. Fetherston, P.E.
Principal Associate

ABF/paw

CC: Pat Hines, McGoey, Hauser & Edsall w/encl.
Karen Arent, KALA w/encl.
Ken Wersted, Creighton Manning, w/ encl.
Robert Dickover, Esq., w/encl.
Gerald Canfield, Code Compliance Supervisor, w/encl.

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BJ'S WHOLESALE

ATTACHMENT 1

NYS ROUTE 17K & NYS ROUTE 300 (UNION AVENUE)

SYNCHRO ANALYSIS

W/ NYS ROUTE 17K WB RESTRIPING TO PERMIT A THROUGH/RIGHT & RIGHT TURN LANE

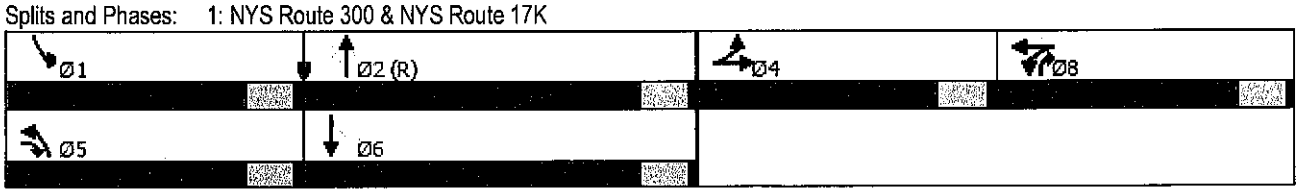
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	328	352	422	200	381	451	329	960	133	320	766	90
Future Volume (vph)	328	352	422	200	381	451	329	960	133	320	766	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	12	11	11	11
Grade (%)		-6%			5%			-1%			-3%	
Storage Length (ft)	255		0	300		300	200		200	145		0
Storage Lanes	2		1	2		1	2		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.91	0.91	0.97	0.95	1.00	0.97	0.95	0.95
Frt			0.850		0.949	0.850			0.850		0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3418	3423	1576	3173	2984	1345	3335	3438	1591	3368	3380	0
Flt Permitted	0.950			0.950			0.104			0.098		
Satd. Flow (perm)	3418	3423	1576	3173	2984	1345	365	3438	1591	347	3380	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			111		52	274			104		9	
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		577			1176			1138			702	
Travel Time (s)		9.8			20.0			17.2			10.6	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	5%	2%	4%	4%	3%	2%	2%	2%	2%	3%	4%
Adj. Flow (vph)	349	374	449	213	405	480	350	1021	141	340	815	96
Shared Lane Traffic (%)						43%						
Lane Group Flow (vph)	349	374	449	213	611	274	350	1021	141	340	911	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		22			22			22			22	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.08	1.08	1.08	1.04	1.04	0.99	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	2	2	2	2	2	2	2	2	2	2	
Detector Template												
Leading Detector (ft)	83	83	83	83	83	83	83	83	83	83	83	
Trailing Detector (ft)	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Position(ft)	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Size(ft)	40	40	40	40	40	40	40	40	40	40	40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	43	43	43	43	43	43	43	43	43	43	43	
Detector 2 Size(ft)	40	40	40	40	40	40	40	40	40	40	40	
Detector 2 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Split	NA	pm+ov	Split	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	4	4	5	8	8		5	2	8	1	6	
Permitted Phases			4			8	2		2	6		
Detector Phase	4	4	5	8	8	8	5	2	8	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	3.0	5.0	5.0	5.0	3.0	10.0	5.0	3.0	10.0	
Minimum Split (s)	11.0	11.0	9.0	11.0	11.0	11.0	9.0	16.0	11.0	9.0	16.0	
Total Split (s)	31.0	31.0	31.0	31.0	31.0	31.0	31.0	41.0	31.0	31.0	41.0	
Total Split (%)	23.1%	23.1%	23.1%	23.1%	23.1%	23.1%	23.1%	30.6%	23.1%	23.1%	30.6%	
Maximum Green (s)	25.0	25.0	25.0	25.0	25.0	25.0	25.0	35.0	25.0	25.0	35.0	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag			Lead				Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	
Vehicle Extension (s)	4.0	4.0	2.0	4.0	4.0	4.0	2.0	4.0	4.0	2.0	4.0	
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	Max	
v/c Ratio	0.62	0.67	0.83	0.32	0.92	0.55	0.63	0.86	0.15	0.75	0.84	
Control Delay	56.9	58.4	30.1	47.4	67.6	9.8	28.0	49.9	3.1	31.8	53.5	
Queue Delay	0.8	0.0	0.0	0.0	48.1	25.8	0.0	0.0	0.0	0.0	0.0	
Total Delay	57.7	58.4	30.1	47.4	115.7	35.6	28.0	49.9	3.1	31.8	53.5	
Queue Length 50th (ft)	146	161	153	82	268	0	87	433	8	103	408	
Queue Length 95th (ft)	194	212	198	123	#417	91	134	#601	26	152	#579	
Internal Link Dist (ft)		497			1096			1058			622	
Turn Bay Length (ft)	255			300		300	200		200	145		
Base Capacity (vph)	637	638	624	662	664	497	733	1186	927	731	1080	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	95	0	0	0	221	220	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.64	0.59	0.72	0.32	1.38	0.99	0.48	0.86	0.15	0.47	0.84	

Intersection Summary

Area Type: Other
Cycle Length: 134
Actuated Cycle Length: 134
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green, Master Intersection
Natural Cycle: 90
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: NYS Route 300 & NYS Route 17K



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	328	352	422	200	381	451	329	960	133	320	766	90
Future Volume (veh/h)	328	352	422	200	381	451	329	960	133	320	766	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	2106	2061	2106	1693	1693	1708	1909	1909	1909	1988	1973	1973
Adj Flow Rate, veh/h	349	374	449	213	388	492	350	1021	141	340	815	96
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	5	2	4	4	3	2	2	2	2	3	3
Cap, veh/h	726	731	482	602	316	540	564	1339	899	518	1231	145
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.08	0.37	0.37	0.03	0.12	0.12
Sat Flow, veh/h	3891	3916	1785	3226	1693	2895	3528	3628	1618	3673	3378	398
Grp Volume(v), veh/h	349	374	449	213	388	492	350	1021	141	340	452	459
Grp Sat Flow(s),veh/h/ln	1946	1958	1785	1613	1693	1448	1764	1814	1618	1837	1874	1901
Q Serve(g_s), s	10.7	11.5	25.0	7.7	25.0	22.3	8.2	33.1	5.7	7.5	30.9	30.9
Cycle Q Clear(g_c), s	10.7	11.5	25.0	7.7	25.0	22.3	8.2	33.1	5.7	7.5	30.9	30.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	726	731	482	602	316	540	564	1339	899	518	683	693
V/C Ratio(X)	0.48	0.51	0.93	0.35	1.23	0.91	0.62	0.76	0.16	0.66	0.66	0.66
Avail Cap(c_a), veh/h	726	731	482	602	316	540	928	1339	899	914	683	693
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	0.84	0.84	0.84	1.00	1.00	1.00	0.86	0.86	0.86
Uniform Delay (d), s/veh	48.7	49.0	47.7	47.5	54.5	53.4	27.7	37.1	14.5	30.7	51.1	51.1
Incr Delay (d2), s/veh	0.7	0.8	25.3	0.4	124.0	17.5	0.4	4.2	0.4	0.5	4.3	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	5.7	17.7	3.1	21.3	9.3	3.3	14.9	3.2	3.4	16.3	16.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.4	49.8	73.0	47.9	178.5	70.9	28.1	41.3	14.9	31.1	55.4	55.3
LnGrp LOS	D	D	E	D	F	E	C	D	B	C	E	E
Approach Vol, veh/h		1172			1093			1512			1251	
Approach Delay, s/veh		58.6			104.6			35.8			48.8	
Approach LOS		E			F			D			D	

Timer - Assigned Phs	1	2	4	5	6	8
Phs Duration (G+Y+Rc), s	16.5	55.5	31.0	17.2	54.8	31.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	25.0	35.0	25.0	25.0	35.0	25.0
Max Q Clear Time (g_c+I1), s	9.5	35.1	27.0	10.2	32.9	27.0
Green Ext Time (p_c), s	1.0	0.0	0.0	1.0	1.3	0.0

Intersection Summary	
HCM 6th Ctrl Delay	59.3
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

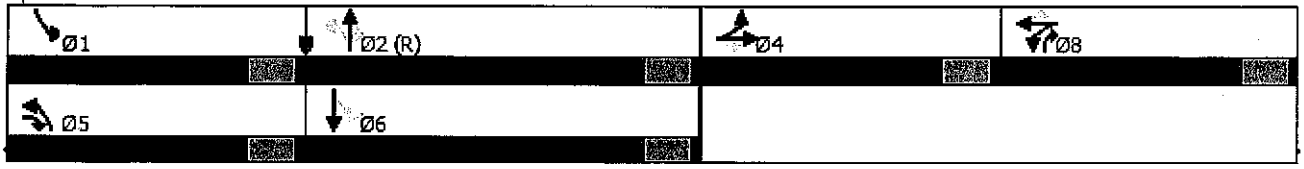
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	243	323	362	265	311	575	348	1020	236	486	897	124
Future Volume (vph)	243	323	362	265	311	575	348	1020	236	486	897	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	12	11	11	11
Grade (%)		-6%			5%			-1%			-3%	
Storage Length (ft)	255		0	300		300	200		200	145		0
Storage Lanes	2		1	2		1	2		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.91	0.91	0.97	0.95	1.00	0.97	0.95	0.95
Frt			0.850		0.928	0.850			0.850		0.982	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3385	3524	1576	3236	2965	1358	3335	3438	1591	3368	3398	0
Flt Permitted	0.950			0.950			0.097			0.088		
Satd. Flow (perm)	3385	3524	1576	3236	2965	1358	341	3438	1591	312	3398	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			73		154	302			73		11	
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		577			1176			1138			702	
Travel Time (s)		9.8			20.0			17.2			10.6	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	5%
Adj. Flow (vph)	256	340	381	279	327	605	366	1074	248	512	944	131
Shared Lane Traffic (%)						50%						
Lane Group Flow (vph)	256	340	381	279	630	302	366	1074	248	512	1075	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		22			22			22			22	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.08	1.08	1.08	1.04	1.04	0.99	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	2	2	2	2	2	2	2	2	2	2	
Detector Template												
Leading Detector (ft)	83	83	83	83	83	83	83	83	83	83	83	
Trailing Detector (ft)	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Position(ft)	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Size(ft)	40	40	40	40	40	40	40	40	40	40	40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	43	43	43	43	43	43	43	43	43	43	43	
Detector 2 Size(ft)	40	40	40	40	40	40	40	40	40	40	40	
Detector 2 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Split	NA	pm+ov	Split	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	4	4	5	8	8		5	2	8	1	6	
Permitted Phases			4			8	2		2	6		
Detector Phase	4	4	5	8	8	8	5	2	8	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	3.0	5.0	5.0	5.0	3.0	10.0	5.0	3.0	10.0	
Minimum Split (s)	11.0	11.0	9.0	11.0	11.0	11.0	9.0	16.0	11.0	9.0	16.0	
Total Split (s)	31.0	31.0	31.0	31.0	31.0	31.0	31.0	41.0	31.0	31.0	41.0	
Total Split (%)	23.1%	23.1%	23.1%	23.1%	23.1%	23.1%	23.1%	30.6%	23.1%	23.1%	30.6%	
Maximum Green (s)	25.0	25.0	25.0	25.0	25.0	25.0	25.0	35.0	25.0	25.0	35.0	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag			Lead				Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	
Vehicle Extension (s)	4.0	4.0	2.0	4.0	4.0	4.0	2.0	4.0	4.0	2.0	4.0	
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	Max	
v/c Ratio	0.50	0.64	0.80	0.41	0.84	0.58	0.73	1.01	0.29	0.83	0.92	
Control Delay	55.3	59.0	31.5	48.1	49.5	9.7	39.5	76.7	7.9	32.4	54.7	
Queue Delay	0.0	0.0	0.0	0.0	6.1	1.2	0.0	0.0	0.0	0.0	0.0	
Total Delay	55.3	59.0	31.5	48.1	55.5	10.9	39.5	76.7	7.9	32.4	54.7	
Queue Length 50th (ft)	107	148	136	107	221	0	110	~539	36	176	511	
Queue Length 95th (ft)	145	192	183	158	#354	95	161	#731	71	233	#702	
Internal Link Dist (ft)		497			1096			1058			622	
Turn Bay Length (ft)	255			300		300	200		200	145		
Base Capacity (vph)	631	657	578	683	748	525	724	1061	862	726	1165	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	80	84	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.41	0.52	0.66	0.41	0.94	0.68	0.51	1.01	0.29	0.71	0.92	

Intersection Summary

Area Type: Other
Cycle Length: 134
Actuated Cycle Length: 134
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green, Master Intersection
Natural Cycle: 90
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: NYS Route 300 & NYS Route 17K



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	243	323	362	265	311	575	348	1020	236	486	897	124
Future Volume (veh/h)	243	323	362	265	311	575	348	1020	236	486	897	124
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	2091	2106	2106	1723	1723	1723	1909	1909	1909	1988	1988	1988
Adj Flow Rate, veh/h	256	340	381	279	327	605	366	1074	248	512	944	131
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	721	747	495	612	321	545	512	1170	824	599	1189	165
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.09	0.32	0.32	0.04	0.12	0.12
Sat Flow, veh/h	3863	4001	1785	3282	1723	2921	3528	3628	1618	3673	3331	462
Grp Volume(v), veh/h	256	340	381	279	327	605	366	1074	248	512	535	540
Grp Sat Flow(s),veh/h/ln	1932	2001	1785	1641	1723	1460	1764	1814	1618	1837	1889	1905
Q Serve(g_s), s	7.7	10.1	25.0	10.1	25.0	25.0	9.1	38.2	11.9	13.4	36.9	37.0
Cycle Q Clear(g_c), s	7.7	10.1	25.0	10.1	25.0	25.0	9.1	38.2	11.9	13.4	36.9	37.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	721	747	495	612	321	545	512	1170	824	599	674	680
V/C Ratio(X)	0.36	0.46	0.77	0.46	1.02	1.11	0.71	0.92	0.30	0.85	0.79	0.79
Avail Cap(c_a), veh/h	721	747	495	612	321	545	850	1170	824	825	674	680
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	0.84	0.84	0.84	1.00	1.00	1.00	0.72	0.72	0.72
Uniform Delay (d), s/veh	47.5	48.4	44.5	48.5	54.5	54.5	31.4	43.7	19.1	40.6	54.3	54.3
Incr Delay (d2), s/veh	0.4	0.6	7.7	0.6	50.4	69.6	0.7	12.7	0.9	3.6	6.9	6.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	5.1	12.5	4.2	15.1	14.3	3.8	18.6	6.6	6.8	20.0	20.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.9	49.1	52.2	49.1	104.9	124.1	32.1	56.4	20.0	44.2	61.2	61.1
LnGrp LOS	D	D	D	D	F	F	C	E	B	D	E	E
Approach Vol, veh/h		977			1211			1688			1587	
Approach Delay, s/veh		50.0			101.6			45.8			55.7	
Approach LOS		D			F			D			E	

Timer - Assigned Phs	1	2	4	5	6	8
Phs Duration (G+Y+Rc), s	22.8	49.2	31.0	18.2	53.8	31.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	25.0	35.0	25.0	25.0	35.0	25.0
Max Q Clear Time (g_c+I1), s	15.4	40.2	27.0	11.1	39.0	27.0
Green Ext Time (p_c), s	1.3	0.0	0.0	1.1	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	61.8
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

BJ'S WHOLESALE

ATTACHMENT 2

NYS ROUTE 17K & NYS ROUTE 300 (UNION AVENUE)

SYNCHRO ANALYSIS

- W/ SIGNAL TIMING IMPROVEMENTS

-

- W/ 25% "PASS-BY" CREDIT

TABLE NO. 2

LEVEL OF SERVICE SUMMARY TABLE

			2019 EXISTING			2022 NO-BUILD			2022 BUILD		
			AM	PM	SAT	AM	PM	SAT	AM	PM	SAT
1	UNION AVENUE (NYS ROUTE 300) &	**SIGNALIZED**									
	NYS ROUTE 17K	EB	D[48.7]	E[57.3]	D[49.7]	D[49.1]	E[58.6]	D[50.1]	D[48.8]	E[58.6]	D[50.0]
		WB	D[51.7]	E[59.0]	E[71.3]	D[49.7]	E[78.6]	F[103.7]	D[48.8]	F[107.2]	F[128.2]
		NB	C[20.5]	C[31.9]	C[34.8]	C[23.1]	C[34.9]	D[40.4]	C[25.8]	D[35.8]	D[45.8]
		SB	A[9.2]	D[47.0]	D[48.8]	B[12.6]	D[49.2]	D[53.0]	B[16.6]	D[48.8]	E[55.7]
		OVERALL	C[29.2]	D[47.1]	D[48.9]	C[30.8]	D[52.9]	E[58.8]	C[32.9]	E[59.9]	E[67.7]
	WITH SIGNAL TIMING IMPROVEMENTS	EB	-----	-----	-----	-----	-----	-----	-----	E[61.0]	D[51.2]
		WB	-----	-----	-----	-----	-----	-----	-----	E[79.9]	F[101.5]
		NB	-----	-----	-----	-----	-----	-----	-----	D[39.5]	D[54.7]
		SB	-----	-----	-----	-----	-----	-----	-----	D[51.9]	E[64.8]
		OVERALL	-----	-----	-----	-----	-----	-----	-----	E[56.4]	E[65.9]
	WITH 25% "PASS-BY" CREDIT	EB	-----	-----	-----	-----	-----	-----	-----	E[57.6]	D[51.2]
		WB	-----	-----	-----	-----	-----	-----	-----	E[73.6]	F[96.2]
		NB	-----	-----	-----	-----	-----	-----	-----	D[40.7]	D[51.7]
		SB	-----	-----	-----	-----	-----	-----	-----	D[53.2]	E[58.8]
		OVERALL	-----	-----	-----	-----	-----	-----	-----	D[54.8]	E[63.4]
2	NYS ROUTE 17K &	**SIGNALIZED**									
	UNITY PLACE/ INTERSTATE 87 OFF RAMP	EB	A[9.6]	B[10.5]	B[10.1]	B[10.1]	B[10.6]	B[10.6]	B[11.9]	B[16.1]	B[17.5]
		WB	A[3.9]	A[4.6]	A[4.3]	A[4.1]	A[4.6]	A[4.5]	A[5.0]	A[8.6]	A[8.9]
		NB	B[19.7]	C[21.6]	C[24.7]	C[20.3]	C[23.7]	C[26.7]	C[21.0]	C[24.7]	C[27.9]
		SB	C[20.0]	C[20.2]	C[23.1]	B[19.9]	C[21.7]	C[24.5]	B[18.8]	C[20.2]	C[22.9]
		OVERALL	A[9.2]	A[9.2]	A[8.6]	A[9.9]	A[9.9]	A[9.5]	B[11.2]	B[14.2]	B[15.1]
3	NYS ROUTE 17K &	**UNSIGNALIZED**									
	PARK & RIDE/ SITE ACCESS DRIVEWAY	EB	A[8.4]	A[9.5]	B[10.3]	A[8.5]	A[9.7]	B[10.7]	A[8.5]	A[9.7]	B[10.7]
		WB	-	-	-	-	-	-	A[9.0]	B[10.0]	B[11.1]
		NB	-	-	-	-	-	-	C[18.5]	F[60.8]	F[228.4]
		SB	B[13.4]	C[21.0]	C[22.7]	B[13.7]	C[23.0]	C[24.9]	C[16.6]	E[37.8]	E[47.3]
	WITH SIGNALIZATION	EB	-	-	-	-	-	-	A[8.6]	A[9.2]	A[9.5]
		WB	-	-	-	-	-	-	A[6.7]	A[7.6]	A[7.9]
		NB	-	-	-	-	-	-	B[11.6]	B[13.5]	B[15.5]
		SB	-	-	-	-	-	-	B[12.0]	B[14.0]	B[16.1]
		OVERALL	-	-	-	-	-	-	A[8.1]	A[8.8]	A[9.2]
4	NYS ROUTE 17K &	**UNSIGNALIZED**									
	AUTO PARK PLACE/ M & T BANK DRIVEWAY	EB	A[0.0]	A[0.0]	A[0.0]	A[0.0]	A[0.0]	A[0.0]	A[0.0]	A[0.0]	A[0.0]
		WB	A[8.7]	A[9.4]	B[10.2]	A[8.8]	A[9.7]	B[10.7]	A[9.1]	B[10.3]	B[11.7]
		NB	B[12.0]	C[16.1]	C[21.7]	B[12.2]	C[17.3]	D[24.7]	B[12.6]	C[20.3]	E[40.8]
		SB	A[0.0]	A[0.0]	A[0.0]	A[0.0]	A[0.0]	A[0.0]	A[0.0]	A[0.0]	A[0.0]
	WITH IMPROVEMENTS	EB	-	-	-	-	-	-	A[0.0]	A[0.0]	A[0.0]
		WB	-	-	-	-	-	-	A[9.1]	B[10.3]	B[11.7]
		NB	-	-	-	-	-	-	B[12.0]	C[16.6]	C[24.7]
		SB	-	-	-	-	-	-	A[0.0]	A[0.0]	A[0.0]
5	UNITY PLACE &	**UNSIGNALIZED**									
	OLD LITTLE BRITAIN ROAD	EB	A[7.7]	A[7.9]	A[8.1]	A[7.7]	A[8.0]	A[8.2]	A[7.9]	A[8.2]	A[8.5]
		SB	B[10.4]	B[11.8]	B[12.1]	B[10.5]	B[12.3]	B[12.8]	B[11.2]	B[14.0]	C[15.4]
6	UNITY PLACE &	**UNSIGNALIZED**									
	AUTO PARK PLACE/ HONDA DRIVEWAY	EB	A[7.5]	A[7.9]	A[7.8]	A[7.8]	A[8.2]	A[8.1]	A[8.1]	A[8.8]	A[8.8]
		WB	A[7.4]	A[7.4]	A[7.7]	A[7.7]	A[7.9]	A[8.2]	A[8.5]	A[9.3]	B[10.1]
		NB	A[7.4]	A[7.7]	A[7.8]	A[7.7]	A[8.2]	A[8.4]	A[8.4]	A[9.3]	B[10.1]
		SB	A[7.7]	A[7.9]	A[8.6]	A[8.1]	A[8.6]	A[9.4]	A[8.7]	A[9.5]	B[11.2]
7	UNITY PLACE &	**UNSIGNALIZED**									
	SITE ACCESS DRIVEWAY	WB	-	-	-	-	-	-	B[10.2]	B[11.3]	B[12.2]
		SB	-	-	-	-	-	-	A[7.6]	A[7.8]	A[7.9]

NOTES:

1) THE ABOVE REPRESENTS THE LEVEL OF SERVICE AND VEHICLE DELAY IN SECONDS, C [16.2], FOR EACH KEY APPROACH OF THE UNSIGNALIZED INTERSECTIONS AS WELL THE UNSIGNALIZED INTERSECTIONS AS WELL AS FOR EACH APPROACH AND THE OVERALL INTERSECTION FOR THE SIGNALIZED INTERSECTIONS.

2) SEE APPENDIX "C" FOR A DESCRIPTION OF THE LEVELS OF SERVICE.

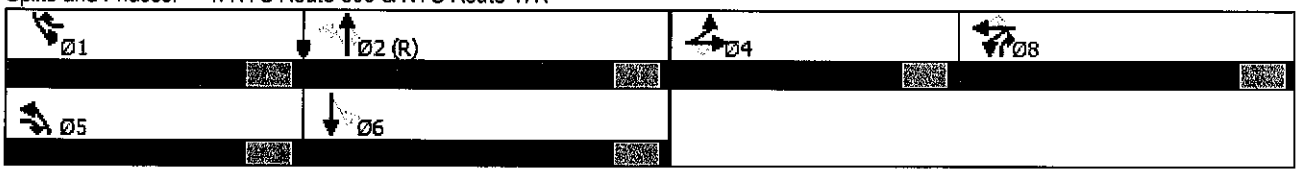
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	328	352	422	200	381	451	329	960	133	320	766	90
Future Volume (vph)	328	352	422	200	381	451	329	960	133	320	766	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	12	11	11	11
Grade (%)		-6%			5%			-1%			-3%	
Storage Length (ft)	255		0	300		300	200		200	145		0
Storage Lanes	2		1	2		1	2		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	0.95
Frt			0.850			0.850			0.850		0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3418	3423	1576	3173	3272	1478	3335	3438	1591	3368	3380	0
Flt Permitted	0.950			0.950			0.160			0.083		
Satd. Flow (perm)	3418	3423	1576	3173	3272	1478	562	3438	1591	294	3380	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			150			73			97		9	
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		577			1176			1138			702	
Travel Time (s)		9.8			20.0			17.2			10.6	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	5%	2%	4%	4%	3%	2%	2%	2%	2%	3%	4%
Adj. Flow (vph)	349	374	449	213	405	480	350	1021	141	340	815	96
Shared Lane Traffic (%)												
Lane Group Flow (vph)	349	374	449	213	405	480	350	1021	141	340	911	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		22			22			22			22	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.08	1.08	1.08	1.04	1.04	0.99	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	2	2	2	2	2	2	2	2	2	2	
Detector Template												
Leading Detector (ft)	83	83	83	83	83	83	83	83	83	83	83	
Trailing Detector (ft)	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Position(ft)	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Size(ft)	40	40	40	40	40	40	40	40	40	40	40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	43	43	43	43	43	43	43	43	43	43	43	
Detector 2 Size(ft)	40	40	40	40	40	40	40	40	40	40	40	
Detector 2 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	4	4	5	8	8	1	5	2	8	1	6	
Permitted Phases			4			8	2		2	6		
Detector Phase	4	4	5	8	8	1	5	2	8	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	3.0	5.0	5.0	3.0	3.0	10.0	5.0	3.0	10.0	
Minimum Split (s)	11.0	11.0	9.0	11.0	11.0	9.0	9.0	16.0	11.0	9.0	16.0	
Total Split (s)	30.0	30.0	31.0	35.0	35.0	31.0	31.0	38.0	35.0	31.0	38.0	
Total Split (%)	22.4%	22.4%	23.1%	26.1%	26.1%	23.1%	23.1%	28.4%	26.1%	23.1%	28.4%	
Maximum Green (s)	24.0	24.0	25.0	29.0	29.0	25.0	25.0	32.0	29.0	25.0	32.0	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag			Lead			Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes			Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	4.0	4.0	2.0	4.0	4.0	2.0	2.0	4.0	4.0	2.0	4.0	
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	Max	
v/c Ratio	0.63	0.68	0.82	0.37	0.68	0.81	0.60	0.89	0.16	0.58	0.75	
Control Delay	57.7	59.3	28.0	49.0	56.7	42.2	24.0	54.0	4.0	21.8	43.9	
Queue Delay	0.5	0.0	0.0	0.0	0.0	54.6	0.0	0.0	0.0	0.0	0.0	
Total Delay	58.2	59.3	28.0	49.0	56.7	96.8	24.0	54.0	4.0	21.8	43.9	
Queue Length 50th (ft)	146	161	145	84	173	316	84	456	9	97	400	
Queue Length 95th (ft)	196	214	163	118	223	414	124	#716	28	153	#612	
Internal Link Dist (ft)		497			1096			1058			622	
Turn Bay Length (ft)	255			300		300	200		200	145		
Base Capacity (vph)	612	613	645	686	708	654	801	1147	919	724	1220	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	58	0	0	0	0	257	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.63	0.61	0.70	0.31	0.57	1.21	0.44	0.89	0.15	0.47	0.75	

Intersection Summary

Area Type: Other
Cycle Length: 134
Actuated Cycle Length: 134
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green, Master Intersection
Natural Cycle: 80
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: NYS Route 300 & NYS Route 17K



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	328	352	422	200	381	451	329	960	133	320	766	90
Future Volume (veh/h)	328	352	422	200	381	451	329	960	133	320	766	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	2106	2061	2106	1693	1693	1708	1909	1909	1909	1988	1973	1973
Adj Flow Rate, veh/h	349	374	449	213	405	480	350	1021	141	340	815	96
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	5	2	4	4	3	2	2	2	2	3	3
Cap, veh/h	697	701	473	677	696	431	540	1249	907	492	1147	135
Arrive On Green	0.18	0.18	0.18	0.22	0.22	0.22	0.09	0.34	0.34	0.03	0.11	0.11
Sat Flow, veh/h	3891	3916	1785	3129	3218	1448	3528	3628	1618	3673	3378	398
Grp Volume(v), veh/h	349	374	449	213	405	480	350	1021	141	340	452	459
Grp Sat Flow(s),veh/h/ln	1946	1958	1785	1564	1609	1448	1764	1814	1618	1837	1874	1901
Q Serve(g_s), s	10.8	11.6	24.0	7.7	15.1	29.0	8.5	34.4	5.6	7.9	31.2	31.2
Cycle Q Clear(g_c), s	10.8	11.6	24.0	7.7	15.1	29.0	8.5	34.4	5.6	7.9	31.2	31.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	697	701	473	677	696	431	540	1249	907	492	636	646
V/C Ratio(X)	0.50	0.53	0.95	0.31	0.58	1.11	0.65	0.82	0.16	0.69	0.71	0.71
Avail Cap(c_a), veh/h	697	701	473	677	696	431	895	1249	907	880	636	646
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	0.84	0.84	0.84	1.00	1.00	1.00	0.86	0.86	0.86
Uniform Delay (d), s/veh	49.6	49.9	48.4	44.1	47.1	47.1	29.7	40.1	14.2	32.9	53.1	53.1
Incr Delay (d2), s/veh	0.8	1.0	29.2	0.3	1.3	75.1	0.5	6.0	0.4	0.6	5.7	5.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	5.7	18.2	3.0	6.1	23.0	3.5	15.8	3.3	3.6	16.7	16.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.4	50.9	77.5	44.5	48.3	122.2	30.2	46.1	14.5	33.5	58.9	58.8
LnGrp LOS	D	D	E	D	D	F	C	D	B	C	E	E
Approach Vol, veh/h		1172			1098			1512			1251	
Approach Delay, s/veh		61.0			79.9			39.5			51.9	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	4	5	6	8
Phs Duration (G+Y+Rc), s	16.9	52.1	30.0	17.5	51.5	35.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	25.0	32.0	24.0	25.0	32.0	29.0
Max Q Clear Time (g_c+I1), s	9.9	36.4	26.0	10.5	33.2	31.0
Green Ext Time (p_c), s	1.0	0.0	0.0	1.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	56.4
HCM 6th LOS	E

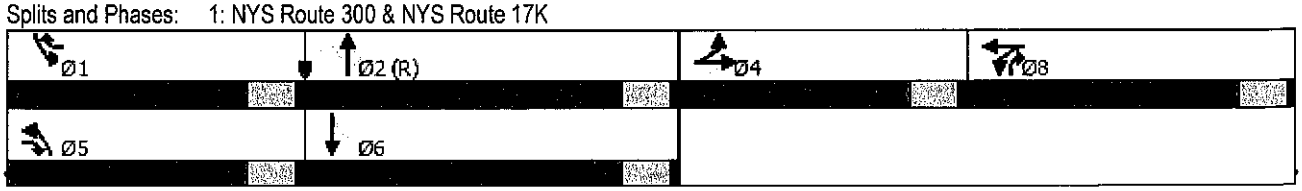
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	243	323	362	265	311	575	348	1020	236	486	897	124
Future Volume (vph)	243	323	362	265	311	575	348	1020	236	486	897	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	12	11	11	11
Grade (%)		-6%			5%			-1%			-3%	
Storage Length (ft)	255		0	300		300	200		200	145		0
Storage Lanes	2		1	2		1	2		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	0.95
Frt			0.850			0.850			0.850		0.982	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3385	3524	1576	3236	3336	1492	3335	3438	1591	3368	3398	0
Flt Permitted	0.950			0.950			0.144			0.087		
Satd. Flow (perm)	3385	3524	1576	3236	3336	1492	506	3438	1591	308	3398	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			90			73			73		11	
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		577			1176			1138			702	
Travel Time (s)		9.8			20.0			17.2			10.6	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	5%
Adj. Flow (vph)	256	340	381	279	327	605	366	1074	248	512	944	131
Shared Lane Traffic (%)												
Lane Group Flow (vph)	256	340	381	279	327	605	366	1074	248	512	1075	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		22			22			22			22	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.08	1.08	1.08	1.04	1.04	0.99	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	2	2	2	2	2	2	2	2	2	2	
Detector Template												
Leading Detector (ft)	83	83	83	83	83	83	83	83	83	83	83	
Trailing Detector (ft)	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Position(ft)	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Size(ft)	40	40	40	40	40	40	40	40	40	40	40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	43	43	43	43	43	43	43	43	43	43	43	
Detector 2 Size(ft)	40	40	40	40	40	40	40	40	40	40	40	
Detector 2 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	4	4	5	8	8	1	5	2	8	1	6	
Permitted Phases			4			8	2		2	6		
Detector Phase	4	4	5	8	8	1	5	2	8	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	3.0	5.0	5.0	3.0	3.0	10.0	5.0	3.0	10.0	
Minimum Split (s)	11.0	11.0	9.0	11.0	11.0	9.0	9.0	16.0	11.0	9.0	16.0	
Total Split (s)	30.0	30.0	31.0	34.0	34.0	31.0	31.0	39.0	34.0	31.0	39.0	
Total Split (%)	22.4%	22.4%	23.1%	25.4%	25.4%	23.1%	23.1%	29.1%	25.4%	23.1%	29.1%	
Maximum Green (s)	24.0	24.0	25.0	28.0	28.0	25.0	25.0	33.0	28.0	25.0	33.0	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag			Lead			Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes			Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	4.0	4.0	2.0	4.0	4.0	2.0	2.0	4.0	4.0	2.0	4.0	
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	Max	
v/c Ratio	0.51	0.65	0.80	0.52	0.59	0.91	0.69	1.05	0.32	0.63	0.80	
Control Delay	55.7	59.5	31.3	54.0	55.7	50.1	31.9	86.6	9.4	19.8	40.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	18.1	0.0	0.0	0.0	0.0	0.0	
Total Delay	55.7	59.5	31.3	54.0	55.7	68.2	31.9	86.6	9.4	19.8	40.2	
Queue Length 50th (ft)	107	148	150	115	140	404	94	~608	55	137	478	
Queue Length 95th (ft)	146	194	164	153	182	#659	139	#755	71	238	#734	
Internal Link Dist (ft)		497			1096			1058			622	
Turn Bay Length (ft)	255			300		300	200		200	145		
Base Capacity (vph)	606	631	588	676	697	671	772	1025	843	815	1346	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	76	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.42	0.54	0.65	0.41	0.47	1.02	0.47	1.05	0.29	0.63	0.80	

Intersection Summary

Area Type: Other
Cycle Length: 134
Actuated Cycle Length: 134
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green, Master Intersection
Natural Cycle: 80
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: NYS Route 300 & NYS Route 17K



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	243	323	362	265	311	575	348	1020	236	486	897	124
Future Volume (veh/h)	243	323	362	265	311	575	348	1020	236	486	897	124
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	2091	2106	2106	1723	1723	1723	1909	1909	1909	1988	1988	1988
Adj Flow Rate, veh/h	256	340	381	279	327	605	366	1074	248	512	944	131
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	692	717	485	665	684	497	500	1092	825	597	1132	157
Arrive On Green	0.18	0.18	0.18	0.21	0.21	0.21	0.09	0.30	0.30	0.04	0.11	0.11
Sat Flow, veh/h	3863	4001	1785	3184	3274	1460	3528	3628	1618	3673	3331	462
Grp Volume(v), veh/h	256	340	381	279	327	605	366	1074	248	512	535	540
Grp Sat Flow(s),veh/h/ln	1932	2001	1785	1592	1637	1460	1764	1814	1618	1837	1889	1905
Q Serve(g_s), s	7.8	10.2	24.0	10.2	11.8	28.0	9.4	39.4	11.9	14.4	37.2	37.2
Cycle Q Clear(g_c), s	7.8	10.2	24.0	10.2	11.8	28.0	9.4	39.4	11.9	14.4	37.2	37.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	692	717	485	665	684	497	500	1092	825	597	642	647
V/C Ratio(X)	0.37	0.47	0.78	0.42	0.48	1.22	0.73	0.98	0.30	0.86	0.83	0.83
Avail Cap(c_a), veh/h	692	717	485	665	684	497	830	1092	825	799	642	647
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	0.84	0.84	0.84	1.00	1.00	1.00	0.72	0.72	0.72
Uniform Delay (d), s/veh	48.4	49.3	45.1	46.0	46.6	44.2	32.8	46.5	19.0	44.3	55.8	55.8
Incr Delay (d2), s/veh	0.5	0.7	8.7	0.5	0.6	112.1	0.8	23.5	0.9	4.1	9.0	9.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	5.1	12.7	4.0	4.8	31.5	3.9	20.7	6.8	9.5	20.4	20.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.8	50.0	53.9	46.5	47.2	156.3	33.6	70.0	19.9	48.5	64.8	64.8
LnGrp LOS	D	D	D	D	D	F	C	E	B	D	E	E
Approach Vol, veh/h		977			1211			1688			1587	
Approach Delay, s/veh		51.2			101.5			54.7			59.5	
Approach LOS		D			F			D			E	

Timer - Assigned Phs	1	2	4	5	6	8
Phs Duration (G+Y+Rc), s	23.7	46.3	30.0	18.5	51.5	34.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	25.0	33.0	24.0	25.0	33.0	28.0
Max Q Clear Time (g_c+I1), s	16.4	41.4	26.0	11.4	39.2	30.0
Green Ext Time (p_c), s	1.3	0.0	0.0	1.1	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	65.9
HCM 6th LOS	E

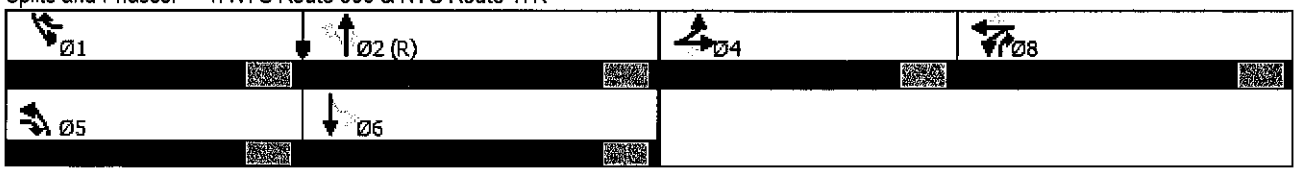
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	328	343	422	196	374	433	329	960	129	309	766	90
Future Volume (vph)	328	343	422	196	374	433	329	960	129	309	766	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	12	11	11	11
Grade (%)		-6%			5%			-1%			-3%	
Storage Length (ft)	255		0	300		300	200		200	145		0
Storage Lanes	2		1	2		1	2		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	0.95
Frt			0.850			0.850			0.850		0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3418	3423	1576	3173	3272	1478	3335	3438	1591	3368	3380	0
Flt Permitted	0.950			0.950			0.157			0.086		
Satd. Flow (perm)	3418	3423	1576	3173	3272	1478	551	3438	1591	305	3380	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			155			73			108		9	
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		577			1176			1138			702	
Travel Time (s)		9.8			20.0			17.2			10.6	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	5%	2%	4%	4%	3%	2%	2%	2%	2%	3%	4%
Adj. Flow (vph)	349	365	449	209	398	461	350	1021	137	329	815	96
Shared Lane Traffic (%)												
Lane Group Flow (vph)	349	365	449	209	398	461	350	1021	137	329	911	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		22			22			22			22	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.08	1.08	1.08	1.04	1.04	0.99	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	2	2	2	2	2	2	2	2	2	2	
Detector Template												
Leading Detector (ft)	83	83	83	83	83	83	83	83	83	83	83	
Trailing Detector (ft)	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Position(ft)	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Size(ft)	40	40	40	40	40	40	40	40	40	40	40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	43	43	43	43	43	43	43	43	43	43	43	
Detector 2 Size(ft)	40	40	40	40	40	40	40	40	40	40	40	
Detector 2 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	4	4	5	8	8	1	5	2	8	1	6	
Permitted Phases			4			8	2		2	6		
Detector Phase	4	4	5	8	8	1	5	2	8	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	3.0	5.0	5.0	3.0	3.0	10.0	5.0	3.0	10.0	
Minimum Split (s)	11.0	11.0	9.0	11.0	11.0	9.0	9.0	16.0	11.0	9.0	16.0	
Total Split (s)	31.0	31.0	31.0	35.0	35.0	31.0	31.0	37.0	35.0	31.0	37.0	
Total Split (%)	23.1%	23.1%	23.1%	26.1%	26.1%	23.1%	23.1%	27.6%	26.1%	23.1%	27.6%	
Maximum Green (s)	25.0	25.0	25.0	29.0	29.0	25.0	25.0	31.0	29.0	25.0	31.0	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag			Lead			Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes			Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	4.0	4.0	2.0	4.0	4.0	2.0	2.0	4.0	4.0	2.0	4.0	
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	Max	
v/c Ratio	0.63	0.66	0.81	0.36	0.67	0.80	0.61	0.86	0.15	0.59	0.74	
Control Delay	57.2	58.1	27.2	49.0	56.6	42.3	24.2	50.7	3.3	21.5	43.2	
Queue Delay	0.5	0.0	0.0	0.0	0.0	45.6	0.0	0.0	0.0	0.0	0.0	
Total Delay	57.8	58.1	27.2	49.0	56.6	87.9	24.2	50.7	3.3	21.5	43.2	
Queue Length 50th (ft)	147	157	144	82	170	305	82	442	6	92	397	
Queue Length 95th (ft)	194	207	157	117	218	389	126	#728	24	149	#623	
Internal Link Dist (ft)		497			1096			1058			622	
Turn Bay Length (ft)	255			300		300	200		200	145		
Base Capacity (vph)	637	638	651	686	708	652	800	1185	940	727	1223	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	73	0	0	0	0	224	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.62	0.57	0.69	0.30	0.56	1.08	0.44	0.86	0.15	0.45	0.74	

Intersection Summary

Area Type: Other
Cycle Length: 134
Actuated Cycle Length: 134
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green, Master Intersection
Natural Cycle: 80
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: NYS Route 300 & NYS Route 17K



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	328	343	422	196	374	433	329	960	129	309	766	90
Future Volume (veh/h)	328	343	422	196	374	433	329	960	129	309	766	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	2106	2061	2106	1693	1693	1708	1909	1909	1909	1988	1973	1973
Adj Flow Rate, veh/h	349	365	449	209	398	461	350	1021	137	329	815	96
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	5	2	4	4	3	2	2	2	2	3	3
Cap, veh/h	726	731	488	677	696	429	532	1227	897	479	1119	132
Arrive On Green	0.19	0.19	0.19	0.22	0.22	0.22	0.09	0.34	0.34	0.03	0.11	0.11
Sat Flow, veh/h	3891	3916	1785	3129	3218	1448	3528	3628	1618	3673	3378	398
Grp Volume(v), veh/h	349	365	449	209	398	461	350	1021	137	329	452	459
Grp Sat Flow(s),veh/h/ln	1946	1958	1785	1564	1609	1448	1764	1814	1618	1837	1874	1901
Q Serve(g_s), s	10.7	11.2	25.0	7.5	14.8	29.0	8.6	34.7	5.5	7.7	31.3	31.3
Cycle Q Clear(g_c), s	10.7	11.2	25.0	7.5	14.8	29.0	8.6	34.7	5.5	7.7	31.3	31.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	726	731	488	677	696	429	532	1227	897	479	621	630
V/C Ratio(X)	0.48	0.50	0.92	0.31	0.57	1.08	0.66	0.83	0.15	0.69	0.73	0.73
Avail Cap(c_a), veh/h	726	731	488	677	696	429	884	1227	897	872	621	630
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	0.84	0.84	0.84	1.00	1.00	1.00	0.86	0.86	0.86
Uniform Delay (d), s/veh	48.7	48.9	47.3	44.1	46.9	47.2	30.3	40.8	14.5	33.5	53.8	53.8
Incr Delay (d2), s/veh	0.7	0.8	23.2	0.3	1.2	61.6	0.5	6.7	0.4	0.6	6.4	6.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	5.5	17.4	2.9	6.0	21.3	3.5	16.1	3.2	3.6	16.8	17.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.4	49.6	70.5	44.4	48.1	108.8	30.9	47.5	14.9	34.1	60.2	60.1
LnGrp LOS	D	D	E	D	D	F	C	D	B	C	E	E
Approach Vol, veh/h		1163			1068			1508			1240	
Approach Delay, s/veh		57.6			73.6			40.7			53.2	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	4	5	6	8
Phs Duration (G+Y+Rc), s	16.7	51.3	31.0	17.6	50.4	35.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	25.0	31.0	25.0	25.0	31.0	29.0
Max Q Clear Time (g_c+I1), s	9.7	36.7	27.0	10.6	33.3	31.0
Green Ext Time (p_c), s	1.0	0.0	0.0	1.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	54.8
HCM 6th LOS	D

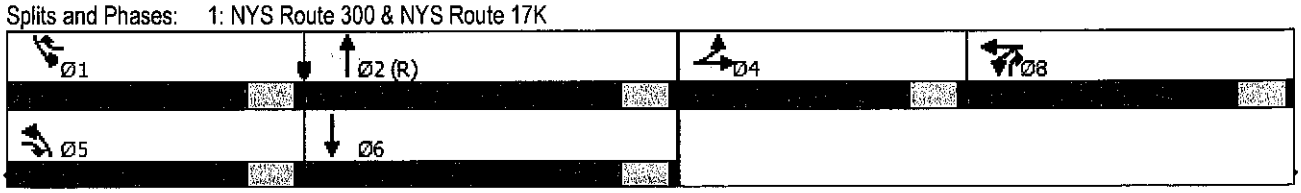
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	243	313	362	260	302	553	348	1020	231	472	897	124
Future Volume (vph)	243	313	362	260	302	553	348	1020	231	472	897	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	12	11	11	11
Grade (%)		-6%			5%			-1%			-3%	
Storage Length (ft)	255		0	300		300	200		200	145		0
Storage Lanes	2		1	2		1	2		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	0.95
Frt			0.850			0.850			0.850		0.982	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3385	3524	1576	3236	3336	1492	3335	3438	1591	3368	3398	0
Flt Permitted	0.950			0.950			0.145			0.083		
Satd. Flow (perm)	3385	3524	1576	3236	3336	1492	509	3438	1591	294	3398	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			93			73			73		11	
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		577			1176			1138			702	
Travel Time (s)		9.8			20.0			17.2			10.6	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	5%
Adj. Flow (vph)	256	329	381	274	318	582	366	1074	243	497	944	131
Shared Lane Traffic (%)												
Lane Group Flow (vph)	256	329	381	274	318	582	366	1074	243	497	1075	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		22			22			22			22	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.08	1.08	1.08	1.04	1.04	0.99	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	2	2	2	2	2	2	2	2	2	2	
Detector Template												
Leading Detector (ft)	83	83	83	83	83	83	83	83	83	83	83	
Trailing Detector (ft)	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Position(ft)	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Size(ft)	40	40	40	40	40	40	40	40	40	40	40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	43	43	43	43	43	43	43	43	43	43	43	
Detector 2 Size(ft)	40	40	40	40	40	40	40	40	40	40	40	
Detector 2 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	4	4	5	8	8	1	5	2	8	1	6	
Permitted Phases			4			8	2		2	6		
Detector Phase	4	4	5	8	8	1	5	2	8	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	3.0	5.0	5.0	3.0	3.0	10.0	5.0	3.0	10.0	
Minimum Split (s)	11.0	11.0	9.0	11.0	11.0	9.0	9.0	16.0	11.0	9.0	16.0	
Total Split (s)	30.0	30.0	31.0	34.0	34.0	31.0	31.0	39.0	34.0	31.0	39.0	
Total Split (%)	22.4%	22.4%	23.1%	25.4%	25.4%	23.1%	23.1%	29.1%	25.4%	23.1%	29.1%	
Maximum Green (s)	24.0	24.0	25.0	28.0	28.0	25.0	25.0	33.0	28.0	25.0	33.0	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag			Lead			Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes			Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	4.0	4.0	2.0	4.0	4.0	2.0	2.0	4.0	4.0	2.0	4.0	
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	Max	
v/c Ratio	0.52	0.64	0.80	0.52	0.59	0.90	0.69	1.00	0.31	0.64	0.79	
Control Delay	56.1	59.4	31.9	54.1	55.7	49.4	30.7	73.2	9.0	20.1	39.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	16.9	0.0	0.0	0.0	0.0	0.0	
Total Delay	56.1	59.4	31.9	54.1	55.7	66.3	30.7	73.2	9.0	20.1	39.1	
Queue Length 50th (ft)	107	143	152	113	136	400	87	~555	48	131	477	
Queue Length 95th (ft)	146	189	163	151	176	#613	139	#755	69	228	#731	
Internal Link Dist (ft)		497			1096			1058			622	
Turn Bay Length (ft)	255			300		300	200		200	145		
Base Capacity (vph)	606	631	586	676	697	657	781	1075	865	789	1367	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	80	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.42	0.52	0.65	0.41	0.46	1.01	0.47	1.00	0.28	0.63	0.79	

Intersection Summary

Area Type: Other
Cycle Length: 134
Actuated Cycle Length: 134
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green, Master Intersection
Natural Cycle: 90
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: NYS Route 300 & NYS Route 17K



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	243	313	362	260	302	553	348	1020	231	472	897	124
Future Volume (veh/h)	243	313	362	260	302	553	348	1020	231	472	897	124
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	2091	2106	2106	1723	1723	1723	1909	1909	1909	1988	1988	1988
Adj Flow Rate, veh/h	256	329	381	274	318	582	366	1074	243	497	944	131
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	692	717	484	665	684	489	499	1114	835	583	1134	157
Arrive On Green	0.18	0.18	0.18	0.21	0.21	0.21	0.09	0.31	0.31	0.04	0.11	0.11
Sat Flow, veh/h	3863	4001	1785	3184	3274	1460	3528	3628	1618	3673	3331	462
Grp Volume(v), veh/h	256	329	381	274	318	582	366	1074	243	497	535	540
Grp Sat Flow(s),veh/h/ln	1932	2001	1785	1592	1637	1460	1764	1814	1618	1837	1889	1905
Q Serve(g_s), s	7.8	9.9	24.0	10.0	11.4	28.0	9.3	39.1	11.5	13.6	37.2	37.2
Cycle Q Clear(g_c), s	7.8	9.9	24.0	10.0	11.4	28.0	9.3	39.1	11.5	13.6	37.2	37.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	692	717	484	665	684	489	499	1114	835	583	643	649
V/C Ratio(X)	0.37	0.46	0.79	0.41	0.46	1.19	0.73	0.96	0.29	0.85	0.83	0.83
Avail Cap(c_a), veh/h	692	717	484	665	684	489	831	1114	835	806	643	649
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	0.84	0.84	0.84	1.00	1.00	1.00	0.72	0.72	0.72
Uniform Delay (d), s/veh	48.4	49.2	45.2	45.9	46.4	44.6	32.5	45.7	18.5	42.6	55.7	55.7
Incr Delay (d2), s/veh	0.5	0.7	8.8	0.5	0.6	102.0	0.8	19.6	0.9	3.6	8.9	8.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	4.9	12.7	4.0	4.6	29.6	3.9	20.0	6.6	6.9	20.4	20.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.8	49.8	54.0	46.4	47.0	146.6	33.3	65.3	19.4	46.2	64.6	64.6
LnGrp LOS	D	D	D	D	D	F	C	E	B	D	E	E
Approach Vol, veh/h		966			1174			1683			1572	
Approach Delay, s/veh		51.2			96.2			51.7			58.8	
Approach LOS		D			F			D			E	

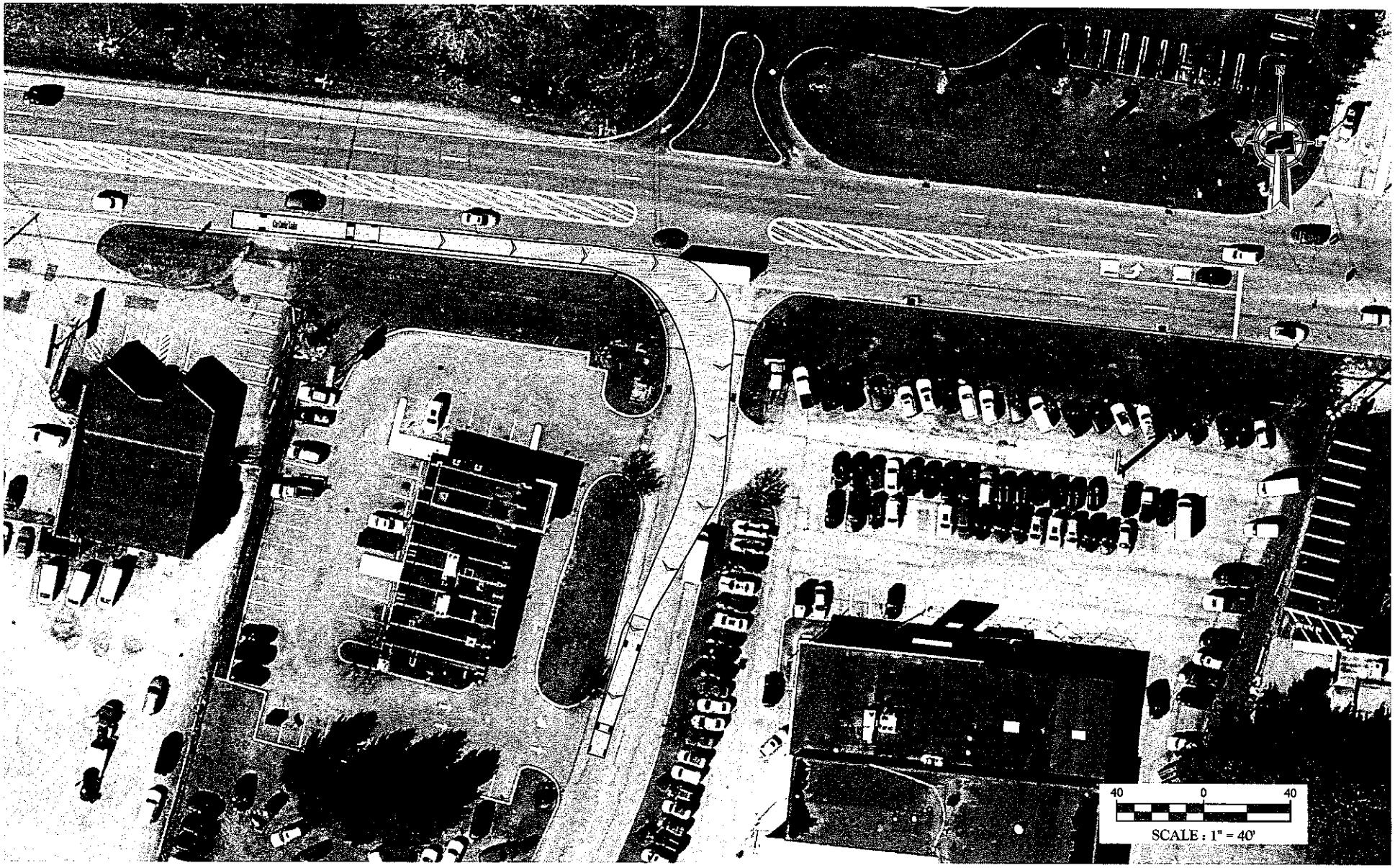
Timer - Assigned Phs	1	2	4	5	6	8
Phs Duration (G+Y+Rc), s	22.9	47.1	30.0	18.4	51.6	34.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	25.0	33.0	24.0	25.0	33.0	28.0
Max Q Clear Time (g_c+I1), s	15.6	41.1	26.0	11.3	39.2	30.0
Green Ext Time (p_c), s	1.3	0.0	0.0	1.1	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	63.4
HCM 6th LOS	E

BJ'S WHOLESALE

ATTACHMENT 3

TRUCK TURNING TRACKS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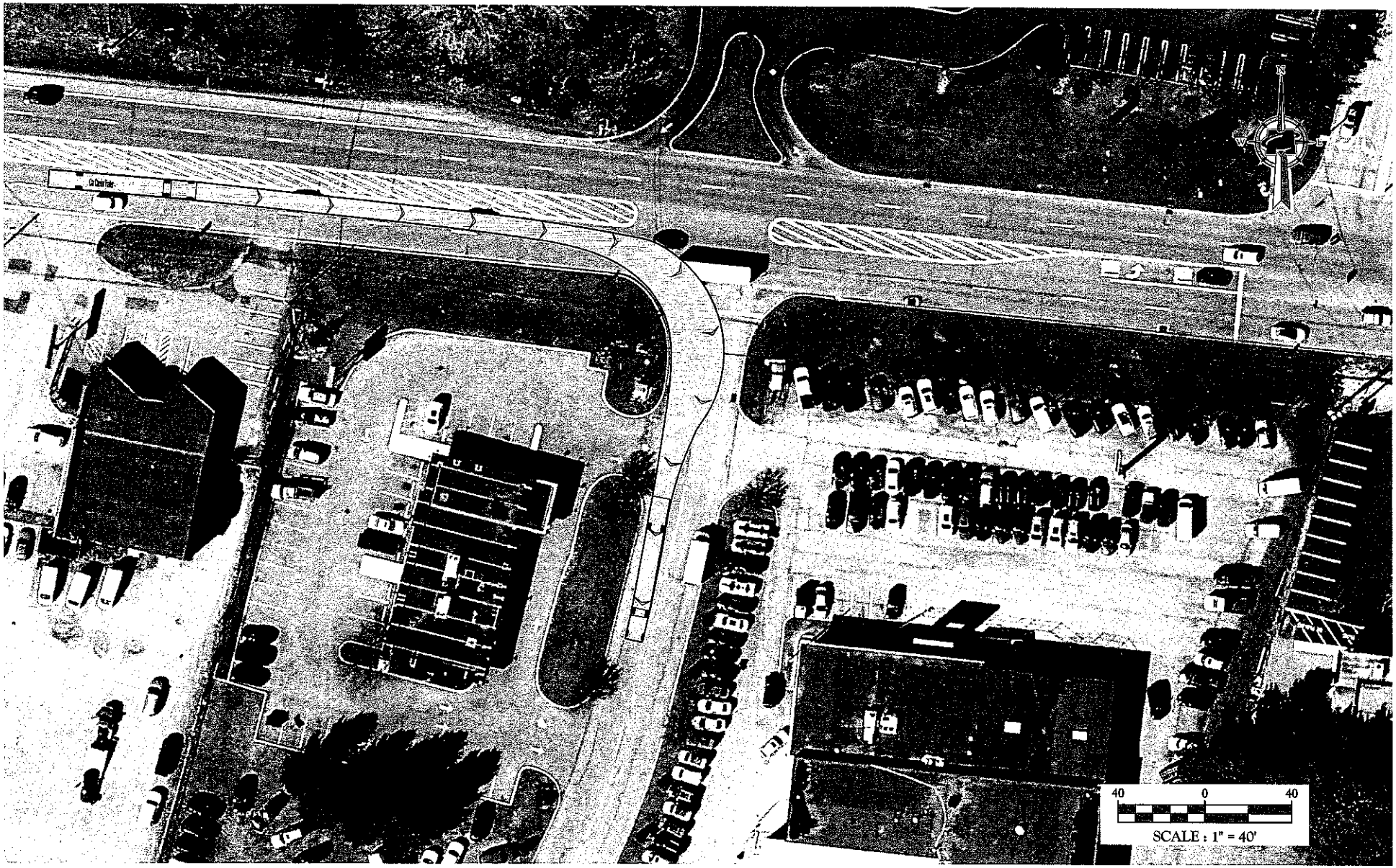
40
SCALE : 1" = 40'


40
0
40
SCALE : 1" = 40'

GREASE TRAP SIZING CALCULATION
BASED ON D.FIXTURE UNIT CALCULATION METHOD)

1 GPM= 2 DFU (BASED ON INTERNATIONAL PLUMBING CODE 709.3)
3" DRAIN TRAP SIZE FOR FLOOR SINKS
TOTAL FORMULA = Q (GPM) X T (30 MIN.)

FLOOR SINKS TOTAL = (10) X 5 DFU = 50 DFU's
FLOOR DRAINS = (7) X 5 DFU = 35 DFU'S
HAND SINKS = (6) X 5 DFU = 30 DFU's

TOTAL = 115 DFU's

1 GPM = 2 DFU

57.5 GPM = 115 DFU

TOTAL FORMULA =57.5 (GPM) X T (30 MIN.) = 1725 GALLON= 2000 GALLON

NOTE:(3) INTERIOR GREASE TRAPS OF 50 GPM@ 100 LBS.

TOWN OF NEWBURGH ZONING MAP

SCALE: 1" = 1,000'

SITE PLANS

FOR

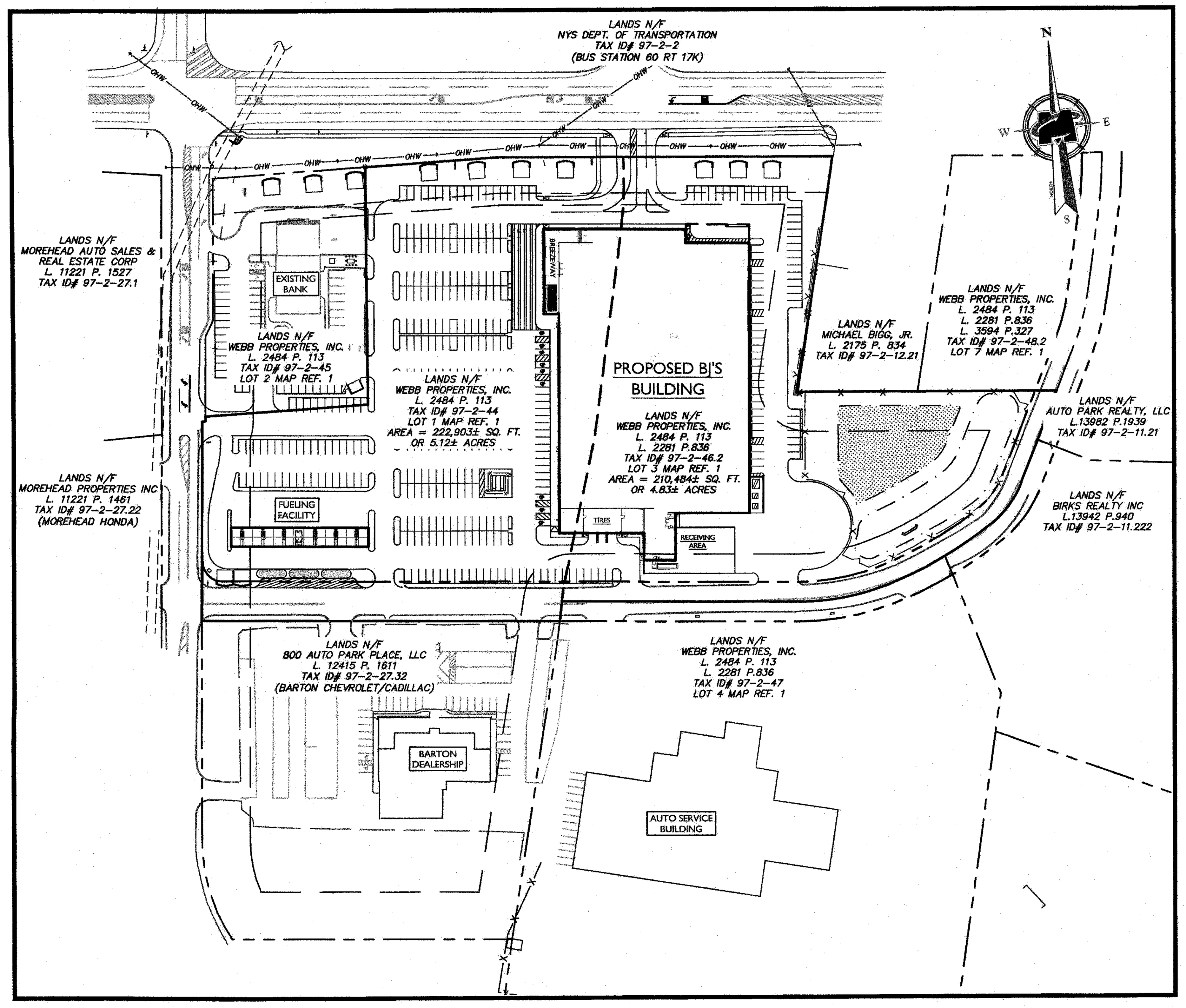
GDPBJ, LLC

BJ'S WHOLESALE CLUB - NEWBURGH

SBL: 97-2- 27.32, 44, 45, & 46.2

TOWN OF NEWBURGH

ORANGE COUNTY, NEW YORK



KEY MAP

100 0 100

SCALE: 1" = 100'

OWNERS:

WEBB PROPERTIES INC.
800 AUTO PARK PLACE
NEWBURGH, NY 12550

800 AUTO PARK PLACE, LLC
800 AUTO PARK PLACE
NEWBURGH, NY 12550

APPLICANT:

GDPBJ, LLC
P.O. BOX 55
145 OTTERKILL ROAD
MOUNTAINVILLE, NY 10953

INDEX OF SHEETS

SHT. No.	OCDOH SHT. No.	DESCRIPTION	LATEST REVISION
1	1	COVER SHEET	7/11/2019
2	-	EXISTING CONDITIONS & DEMOLITION PLAN	7/11/2019
3	-	DIMENSION PLAN	7/11/2019
4	-	GRADING & DRAINAGE PLAN	7/11/2019
5	2	UTILITY PLAN	7/11/2019
6	3	UTILITY PROFILES	7/11/2019
7	-	SOIL EROSION AND SEDIMENT CONTROL PLAN	7/11/2019
8	-	SOIL EROSION AND SEDIMENT CONTROL DETAILS	7/11/2019
9	-	LANDSCAPE PLAN	7/11/2019
10	-	LIGHTING PLAN	7/11/2019
11-15	4	CONSTRUCTION DETAILS	7/11/2019

GENERAL INFORMATION

1. BOUNDARY AND TOPOGRAPHIC INFORMATION SHOWN HEREON IS TAKEN FROM A PLAN ENTITLED "BOUNDARY AND TOPORAPHIC SURVEY" PREPARED BY MASER CONSULTING, P.A. AND PREPARED FOR GDPBJ LLC, LAST REVISED 5/16/17

2. THE HORIZONTAL DATUM IS RELATIVE TO THE NEW YORK STATE PLANE COORDINATE SYSTEM EAST ZONE AND ADJUSTED TO NAD 1983. THE VERTICAL DATUM IS RELATIVE TO N.A.V.D. 1988.

3. NO 100 YEAR FLOOD PLAINS ARE KNOWN TO EXIST ON THE SITE PER THE FLOOD INSURANCE RATE MAPS 36071C0139E & 36071C0143E, DATED AUGUST 3, 2009 PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.

4. MATERIALS, WORKMANSHIP, AND CONSTRUCTION FOR THE SITE IMPROVEMENTS SHOWN HEREON SHALL BE IN ACCORDANCE WITH:
   - A. NEW YORK STATE DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS", 2002; AS SUPPLEMENTED.
   - B. CURRENT PREVAILING MUNICIPAL, COUNTY, AND/OR STATE AGENCY SPECIFICATIONS, STANDARDS, CONDITIONS, AND REQUIREMENTS.
   - C. CURRENT PREVAILING UTILITY COMPANY/AUTHORITY SPECIFICATIONS, STANDARDS, AND REQUIREMENTS.
   - D. CURRENT MANUFACTURER SPECIFICATIONS, STANDARDS, AND REQUIREMENTS.

6. WATER SERVICE TO BE PROVIDED FROM THE EXISTING WATER MAIN IN NYS ROUTE 17K RIGHT-OF-WAY AND THE MAIN IN AUTO PARK PLACE. WATERMAIN SIZE AND LOCATION IS REFERENCED FROM BEST AVAILABLE MAPPING.

7. SANITARY SEWER SERVICE SHALL BE PROVIDED BY A GRAVITY CONNECTION TO EXISTING SEWER MAINS IN THE RIGHT-OF-WAY ON AUTO PARK PLACE. MANHOLE LOCATIONS ARE SUBJECT TO MUNICIPAL REVIEW AND APPROVAL, ACCORDING TO MUNICIPAL AND ORANGE COUNTY COUNTY HEALTH DEPARTMENT REGULATIONS. PIPE MATERIALS SHALL BE PVC SDR-35, EXCEPT AS NOTED OTHERWISE ON THE PLANS. EXCEPT WHERE SHALLOWER DEPTHS ARE PERMITTED BY THE MUNICIPALITY OR UTILITY AUTHORITY, SEWER LINES, INCLUDING FORCE MAINS AND LATERALS, SHALL BE INSTALLED TO PROVIDE A MINIMUM 4 FEET OF COVER FROM THE TOP OF PIPE TO PROPOSED GRADE.

8. SANITARY SEWERS SHALL BE SEPARATED FROM WATER MAINS BY AT LEAST 10 FEET HORIZONTALLY. IF SUCH SEPARATION IS NOT POSSIBLE, THE PIPES SHALL BE IN SEPARATE TRENCHES WITH THE SANITARY SEWER AT LEAST 18 INCHES BELOW THE BOTTOM OF THE WATER MAIN. WHERE APPROPRIATE SEPARATION IS NOT POSSIBLE, THE SEWER SHALL BE ENCASED IN CONCRETE, OR CONSTRUCTED OF DUCTILE-IRON-PIPE USING MECHANICAL OR SLIP ON JOINTS, FOR A DISTANCE OF 10 FEET ON EITHER SIDE OF THE CROSSING. IN ADDITION, ONE FULL LENGTH OF SEWER PIPE SHOULD BE LOCATED SO BOTH JOINTS ARE AS FAR AWAY AS POSSIBLE FROM THE WATER LINE.

9. GAS, ELECTRIC, LIGHTING, COMMUNICATIONS, AND ELECTRICAL SERVICE PLANS, IF REQUIRED, SHALL BE PREPARED BY THE RESPECTIVE UTILITY COMPANIES THAT SERVICE THE AREA PRIOR TO SITE CONSTRUCTION AND SHALL BE INSTALLED PER ORDINANCE REQUIREMENTS.

10. ELECTRIC, COMMUNICATIONS, AND GAS LINES WILL BE INSTALLED UNDERGROUND. CROSSINGS OF PROPOSED PAVEMENTS WILL BE INSTALLED PRIOR TO THE CONSTRUCTION OF PAVEMENT BASE COURSE.

11. UTILITY RELOCATIONS SHOWN HEREON, IF ANY, ARE FOR INFORMATIONAL PURPOSES ONLY AND MAY NOT REPRESENT ALL REQUIRED UTILITY RELOCATIONS. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING AND/OR COORDINATING ALL REQUIRED UTILITY RELOCATIONS IN COOPERATION WITH THE RESPECTIVE UTILITY COMPANY/AUTHORITIES.

12. STORM SEWERS SHALL BE CLASS III (OR HIGHER IF NOTED) REINFORCED CONCRETE PIPE (RCP) WITH "O" RING GASKETS, HIGH DENSITY POLYEHTYLENE PIPE (HDPE) OR APPROVED EQUAL AS NOTED. PROPER PIPE COVERAGE SHALL BE MAINTAINED DURING ALL PHASES OF CONSTRUCTION. PIPE LENGTHS SHOWN HEREON ARE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.

13. REFUSE AND RECYCLABLES PICKUP SHALL BE AS SHOWN OF THE PLAN AND AS DEEMED ACCEPTABLE BY THE TOWN FIRE INSPECTORS OFFICE.

14. TRAFFIC SIGNAGE AND STRIPING SHALL CORRESPOND TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

15. THIS IS A SITE DEVELOPMENT PLAN AND UNLESS SPECIFICALLY NOTED ELSEWHERE HEREON, IS NOT A SURVEY.

16. BUILDING FOOTPRINT DIMENSIONS SHOWN HERON ARE APPROXIMATE. FINAL BUILDING FOOTPRINT DIMENSIONS FOR EACH BUILDING SHALL BE FURNISHED ON THE ARCHITECTURAL PLANS AT THE TIME OF APPLICATION FOR A BUILDING PERMIT. ALL STRUCTURES SHALL CONFORM TO THE APPROVED BULK ZONING REQUIREMENTS.

17. DO NOT SCALE DRAWINGS AS THEY PERTAIN TO ADJACENT AND SURROUNDING PHYSICAL CONDITIONS, BUILDINGS, STRUCTURES, ETC. THEY ARE SCHEMATIC ONLY, EXCEPT WHERE DIMENSIONS ARE SHOWN THERETO.

18. THIS SET OF PLANS HAS BEEN PREPARED FOR THE PURPOSES OF MUNICIPAL AND AGENCY REVIEW AND APPROVAL. THIS SET OF PLANS SHALL NOT BE UTILIZED AS CONSTRUCTION DOCUMENTS UNTIL ALL APPROVALS REQUIRED HAVE BEEN OBTAINED, ALL CONDITIONS OF APPROVAL HAVE BEEN SATISFIED AND THE DRAWINGS HAVE BEEN STAMPED "ISSUED FOR CONSTRUCTION". THIS SHALL INCLUDE APPROVAL OF ALL CATALOG CUTS, SHOP DRAWINGS AND/OR DESIGN CALCULATIONS AS REQUIRED BY THE PROJECT OWNER AND/OR MUNICIPALITY. CONSTRUCTION ON SITE SHALL BE IN COMPLIANCE WITH SITE PLANS APPROVED BY THE TOWN PLANNING BOARD.

19. EXISTING UNDERGROUND UTILITY INFORMATION SHOWN HEREON HAS BEEN COLLECTED FROM VARIOUS SOURCES AND IS NOT GUARANTEED AS TO ACCURACY OR COMPLETENESS. THE CONTRACTOR SHALL VERIFY ALL INFORMATION TO THEIR SATISFACTION PRIOR TO EXCAVATION. WHERE EXISTING UTILITIES ARE TO BE CROSSED BY PROPOSED CONSTRUCTIONS, TEST PITS SHALL BE DUG BY THE CONTRACTOR PRIOR TO CONSTRUCTION TO ASCERTAIN EXISTING INVERTS, MATERIALS, AND SIZES. TEST PIT INFORMATION SHALL BE GIVEN TO THE ENGINEER PRIOR TO CONSTRUCTION TO PERMIT ADJUSTMENTS AS REQUIRED TO AVOID CONFLICTS. THE CONTRACTOR SHALL NOTIFY THE UNDER SIGNED PROFESSIONAL IMMEDIATELY IF ANY FIELD CONDITIONS ENCOUNTERED DIFFER MATERIALLY FROM THOSE REPRESENTED HEREON. SUCH CONDITIONS COULD RENDER THE DESIGNS HEREON INAPPROPRIATE OR INEFFECTIVE.

20. THE CONTRACTOR IS RESPONSIBLE FOR PROJECT SAFETY, INCLUDING PROVISION OF ALL APPROPRIATE SAFETY DEVICES AND TRAINING REQUIRED.

21. PROJECT HAS INDICATED THE INTENT TO PROVIDED ADEQUATE FIRE FLOW BY THE PROPOSED INSTALLATION OF SPRINKLER SYSTEMS MEETING NFPA REQUIREMENTS, AND IS; THEREFORE, EXEMPT FROM THE NEEDED FIRE FLOW GUIDELINES OF THE INSURANCE SERVICES OFFICE (ISO). THE PROPOSED SPRINKLER SYSTEM DESIGN HAS NOT BEEN EVALUATED BY THE ORANGE COUNTY DEPARTMENT OF HEALTH FOR COMPLIANCE WITH THE NFPA REQUIREMENTS.

22. INFORMATION SHOWN HEREON IS INCORPORATED WITH THE CONTENTS OF THE FOLLOWING REPORTS:
   - STORMWATER POLLUTION PREVENTION PLAN (SWPPP) PREPARED BY MASER CONSULTING DATED, JUNE 2019
   - TRAFFIC IMPACT STUDY PREPARED BY MASER CONSULTING DATED 06/13/2019

23. PROPERTY DESCRIPTION:
   - TAX LOT: 97-2-27.32, 44, 45, & 46.2
   - LOT SIZE: 15.09 ACRES
   - ZONE: IB (INTERCHANGE BUSINESS)
   - PROPERTY LOCATION: NYS ROUTE 17K & AUTO PARK PLACE

OCDOH
(SHEET 1 OF 4)

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Customer Loyalty *through* Client Satisfaction
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Landscape Architects ■ Environmental Scientists
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- New York: Albany, New Windsor, Westchester
- Pennsylvania: Lehigh Valley, Exton, Philadelphia, Pittsburgh
- Florida: Tampa, Orlando, Miami, Jacksonville
- Maryland: Columbia
- North Carolina: Charlotte, Raleigh
- Virginia: Sterling, Norfolk
- New Mexico: Albuquerque
- Tennessee: Nashville
- Texas: Bryan

State of N.Y. Certificate of Authorization: 0008671 / 0008821

REV	DATE	DRAWN BY	DESCRIPTION
1	06/13/19	CDR	REVISED PER COMMENTS AND SWPPP DESIGN.
2	07/11/19	CDR	REVISED PER PLANNING BOARD COMMENTS & OCDOH SUBMISSION.

STATE OF NEW YORK
ANDREW B. FETHERSTON
NEW YORK LICENSED PROFESSIONAL ENGINEER - LICENSE NUMBER: 073555-1

BJ's WHOLESALE CLUB

FOR

GDPBJ, LLC

SECTION 97
BLOCK 2
LOTS 27.32, 44, 45 & 46.2

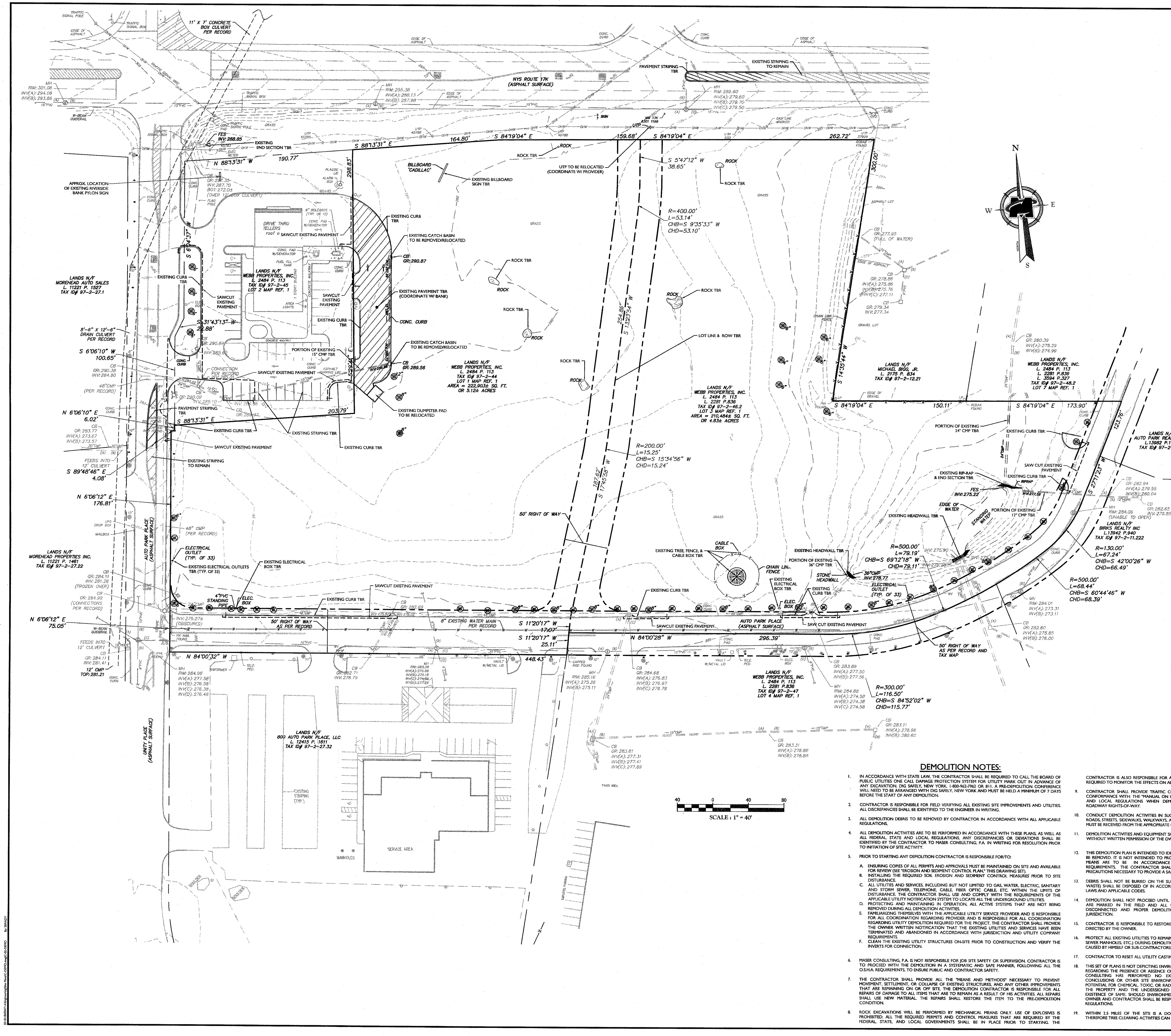
TOWN OF NEWBURGH
ORANGE COUNTY
NEW YORK STATE

NEW WINDSOR OFFICE
555 Hudson Valley Avenue
Suite 101
New Windsor, NY 12553
Phone: 845.564.4495
Fax: 845.567.1025

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	05/24/19	CDR	ABF

PROJECT NUMBER:	DRAWING NAME:
18000471A	C-CVER

SHEET TITLE: COVER SHEET



DRAWING LEGEND

PROPERTY BOUNDARY TO BE REMOVED
PROPERTY BOUNDARY
EDGE OF ASPHALT
EXISTING CURB
DEPRESSED CURB
PAVEMENT STRIPING
OVERHEAD WIRES
WATERLINE MARKOUT
EASEMENTS
MAJOR CONTOUR
MINOR CONTOUR
SANITARY PIPES
STORMWATER PIPES
TREEROW / HEDGE
TREELINE
BOUNDARY EVIDENCE
SIGN
POST / BOLLARD
UTILITY POLE
GUY WIRE
LIGHT POLE
ROOF LEADER / OPEN ROOF DRAIN — RL / ORD
TREE TO BE REMOVED
SANITARY MANHOLE
SANITARY CLEANOUT
DRAINAGE MANHOLE
WATER VALVE — WV
CATCH BASIN

TBR = TO BE REMOVED
UTP = UTILITY POLE
DI = DRAIN INLET
CB = CATCH BASIN
GR. = GRATE
CO = CLEANOUT

SAWCUT LINE

PAVEMENT TO BE REMOVED

DEMOLITION NOTES:

1. IN ACCORDANCE WITH STATE LAW, THE CONTRACTOR SHALL BE REQUIRED TO CALL THE BOARD OF PUBLIC UTILITIES ONE CALL DAMAGE PROTECTION SYSTEM FOR UTILITY MARK OUT IN ADVANCE OF ANY EXCAVATION. DIG SAFELY, NEW YORK, 1-800-962-7962 OR 811. A PRE-DEMOLITION CONFERENCE WILL NEED TO BE ARRANGED WITH DIG SAFELY, NEW YORK AND MUST BE HELD A MINIMUM OF 7 DAYS BEFORE THE START OF ANY DEMOLITION.

2. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING SITE IMPROVEMENTS AND UTILITIES. ALL DISCREPANCIES SHALL BE IDENTIFIED TO THE ENGINEER IN WRITING.

3. ALL DEMOLITION DEBRIS TO BE REMOVED BY CONTRACTOR IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS.

4. ALL DEMOLITION ACTIVITIES ARE TO BE PERFORMED IN ACCORDANCE WITH THESE PLANS, AS WELL AS ALL FEDERAL, STATE AND LOCAL REGULATIONS. ANY DISCREPANCIES OR DEVIATIONS SHALL BE IDENTIFIED BY THE CONTRACTOR TO MASER CONSULTING, P.A. IN WRITING FOR RESOLUTION PRIOR TO INITIATION OF SITE ACTIVITY.

5. PRIOR TO STARTING ANY DEMOLITION CONTRACTOR IS RESPONSIBLE FOR/TO:

   A. ENSURING COPIES OF ALL PERMITS AND APPROVALS MUST BE MAINTAINED ON SITE AND AVAILABLE FOR REVIEW (SEE "EROSION AND SEDIMENT CONTROL PLAN," THIS DRAWING SET).
   B. INSTALLING THE REQUIRED SOIL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO SITE DISTURBANCE.
   C. ALL UTILITIES AND SERVICES, INCLUDING BUT NOT LIMITED TO GAS, WATER, ELECTRIC, SANITARY AND STORM SEWER, TELEPHONE, CABLE, FIBER OPTIC CABLE, ETC. WITHIN THE LIMITS OF DISTURBANCE. THE CONTRACTOR SHALL USE AND COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY NOTIFICATION SYSTEM TO LOCATE ALL THE UNDERGROUND UTILITIES.
   D. PROTECTING AND MAINTAINING IN OPERATION, ALL ACTIVE SYSTEMS THAT ARE NOT BEING REMOVED DURING ALL DEMOLITION ACTIVITIES.
   E. FAMILIARIZING THEMSELVES WITH THE APPLICABLE UTILITY SERVICE PROVIDER AND IS RESPONSIBLE FOR ALL COORDINATION REGARDING PROVIDER AND IS RESPONSIBLE FOR ALL COORDINATION REGARDING UTILITY DEMOLITION REQUIRED FOR THE PROJECT. THE CONTRACTOR SHALL PROVIDE THE OWNER WRITTEN NOTIFICATION THAT THE EXISTING UTILITIES AND SERVICES HAVE BEEN TERMINATED AND ABANDONED IN ACCORDANCE WITH JURISDICTION AND UTILITY COMPANY REQUIREMENTS.
   F. CLEAN THE EXISTING UTILITY STRUCTURES ON-SITE PRIOR TO CONSTRUCTION AND VERIFY THE INVERTS FOR CONNECTION.

6. MASER CONSULTING, P.A. IS NOT RESPONSIBLE FOR JOB SITE SAFETY OR SUPERVISION. CONTRACTOR IS TO PROCEED WITH THE DEMOLITION IN A SYSTEMATIC AND SAFE MANNER, FOLLOWING ALL THE O.S.H.A. REQUIREMENTS, TO ENSURE PUBLIC AND CONTRACTOR SAFETY.

7. THE CONTRACTOR SHALL PROVIDE ALL THE "MEANS AND METHODS" NECESSARY TO PREVENT MOVEMENT, SETTLEMENT, OR COLLAPSE OF EXISTING STRUCTURES, AND ANY OTHER IMPROVEMENTS THAT ARE REMAINING ON OR OFF SITE. THE DEMOLITION CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS OF DAMAGE TO ALL ITEMS THAT ARE TO REMAIN AS A RESULT OF HIS ACTIVITIES. ALL REPAIRS SHALL USE NEW MATERIAL. THE REPAIRS SHALL RESTORE THE ITEM TO THE PRE-DEMOLITION CONDITION.

8. ROCK EXCAVATIONS WILL BE PERFORMED BY MECHANICAL MEANS ONLY. USE OF EXPLOSIVES IS PROHIBITED. ALL THE REQUIRED PERMITS AND CONTROL MEASURES THAT ARE REQUIRED BY THE FEDERAL, STATE, AND LOCAL GOVERNMENTS SHALL BE IN PLACE PRIOR TO STARTING. THE CONTRACTOR IS ALSO RESPONSIBLE FOR ALL INSPECTION AND SEISMIC VIBRATION TESTING THAT IS REQUIRED TO MONITOR THE EFFECTS ON ALL LOCAL STRUCTURES, AS APPLICABLE.

9. CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL AND GENERALLY ACCEPTED SAFE PRACTICES IN CONFORMANCE WITH: THE "MANUAL ON UNIFORM TRAFFIC CONTROL", AS WELL AS FEDERAL, STATE, AND LOCAL REGULATIONS WHEN DEMOLITION RELATED ACTIVITIES IMPACT ROADWAYS OR ROADWAY RIGHTS-OF-WAY.

10. CONDUCT DEMOLITION ACTIVITIES IN SUCH A MANNER TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, SIDEWALKS, WALKWAYS, AND OTHER ADJACENT FACILITIES. STREET CLOSURE PERMITS MUST BE RECEIVED FROM THE APPROPRIATE GOVERNMENTAL AUTHORITY.

11. DEMOLITION ACTIVITIES AND EQUIPMENT SHALL NOT USE AREAS OUTSIDE THE DEFINED PROPERTY LINE WITHOUT WRITTEN PERMISSION OF THE OWNER, AND/OR APPROPRIATE GOVERNMENT AGENCY.

12. THIS DEMOLITION PLAN IS INTENDED TO IDENTIFY THOSE EXISTING ITEMS/CONDITIONS WHICH ARE TO BE REMOVED. IT IS NOT INTENDED TO PROVIDE DIRECTION OTHER THAN THAT ALL METHODS AND MEANS ARE TO BE IN ACCORDANCE WITH STATE, FEDERAL, LOCAL, AND JURISDICTIONAL REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL O.S.H.A. AND OTHER SAFETY PRECAUTIONS NECESSARY TO PROVIDE A SAFE WORK SITE.

13. DEBRIS SHALL NOT BE BURIED ON THE SUBJECT SITE. ALL DEMOLITION WASTES AND DEBRIS (SOLID WASTE) SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL TOWN, COUNTY, STATE, AND FEDERAL LAWS AND APPLICABLE CODES.

14. DEMOLITION SHALL NOT PROCEED UNTIL THE APPROXIMATE LOCATION OF THE EXISTING UTILITIES ARE MARKED IN THE FIELD AND ALL UTILITY CONNECTIONS ARE SUITABLY SHUT OFF AND DISCONNECTED AND PROPER DEMOLITION PERMITS ARE IN PLACE WITH THE APPROPRIATE JURISDICTION.

15. CONTRACTOR IS RESPONSIBLE TO RESTORE ALL DISTURBED SITE AREAS TO ORIGINAL CONDITION AS DIRECTED BY THE OWNER.

16. PROTECT ALL EXISTING UTILITIES TO REMAIN (INCLUDING DRAINAGE STRUCTURES, HYDRANTS, VALVES, SEWER MANHOLES, ETC.) DURING DEMOLITION. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIMSELF OR SUB-CONTRACTORS.

17. CONTRACTOR TO RESET ALL UTILITY CASTINGS TO FINISHED GRADE.

18. THIS SET OF PLANS IS NOT DEPICTING ENVIRONMENTAL CONDITIONS OR A CERTIFICATION/WARRANTY REGARDING THE PRESENCE OR ABSENCE OF ENVIRONMENTALLY IMPACTED SITE CONDITIONS. MASER CONSULTING HAS PERFORMED NO EXPLORATORY OR TESTING SERVICE, INTERPRETATIONS, CONCLUSIONS OR OTHER SITE ENVIRONMENTAL SERVICES RELATED TO THE DETERMINATION OF POTENTIAL FOR CHEMICAL, TOXIC, OR RADIOACTIVE OR OTHER TYPE OF CONTAMINANTS AFFECTING THE PROPERTY AND THE UNDERSIGNED PROFESSIONAL IS NOT QUALIFIED TO DETERMINE THE EXISTENCE OF SAME. SHOULD ENVIRONMENTAL CONTAMINATION OR WASTE BE DISCOVERED, THE OWNER AND CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LAW AND REGULATIONS.

19. WITHIN 2.5 MILES OF THE SITE IS A DOCUMENTED NON-WINTER LOCATION OF INDIANA BAT, THEREFORE TREE CLEARING ACTIVITIES CAN ONLY OCCUR BETWEEN OCTOBER 31ST AND MARCH 31ST.

MASER CONSULTING P.A.

ANDREW B. FETHERSTON
NEW YORK LICENSED PROFESSIONAL ENGINEER - LICENSE NUMBER: 073555-1

BJ's WHOLESALE CLUB

FOR

GDPBJ, LLC

SECTION 97
BLOCK 2
LOTS 27.32, 44, 45 & 46.2

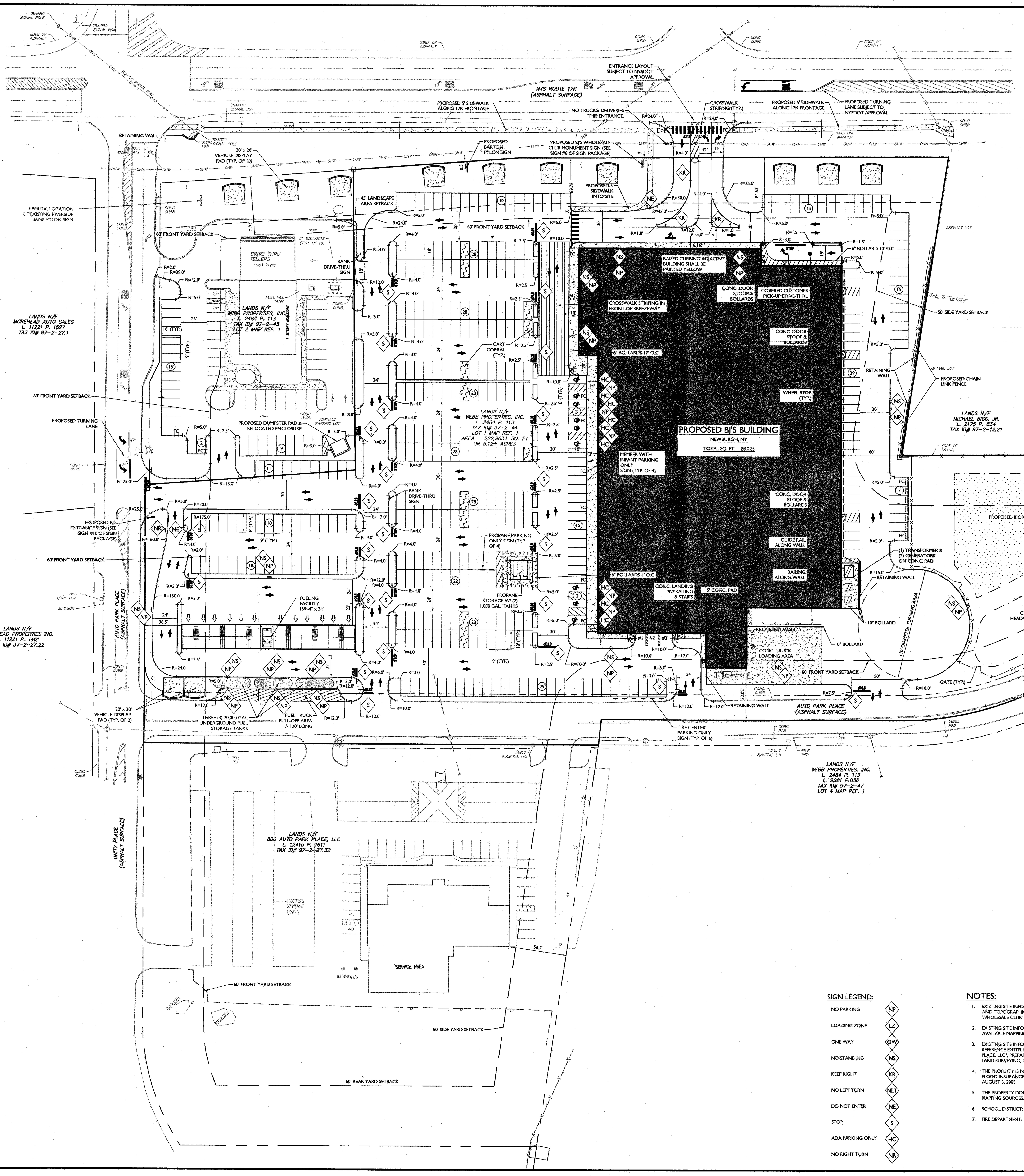
TOWN OF NEWBURGH
ORANGE COUNTY
NEW YORK STATE

NEW WINDSOR OFFICE
555 Hudson Valley Avenue
Suite 101
New Windsor, NY 12553
Phone: 845.564.4495
Fax: 845.567.1025

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	05/24/19	CDR	ABF

PROJECT NUMBER:	DRAWING NAME:
18000471A	C-DEMO

SHEET TITLE: SITE DEMOLITION PLAN



OWNERS:

WEBB PROPERTIES INC.
800 AUTO PARK PLACE
NEWBURGH, NY 12550

800 AUTO PARK PLACE, LLC
800 AUTO PARK PLACE
NEWBURGH, NY 12550

APPLICANT:

GDPBJ, LLC
P.O. BOX 55
145 OTTERKILL ROAD
MOUNTAINVILLE, NY 10953

TAX LOTS:

97-2-27.32
±165,867 SQ. FT.
±3.80 ACRES

97-2-44
±222,903 SQ. FT.
±5.12 ACRES

97-2-45
±58,438 SQ. FT.
±1.34 ACRES

97-2-46.2
±210,484 SQ. FT.
±4.83 ACRES

TOTAL SHOPPING CENTER:
±657,692 SQ. FT.
±15.09 ACRES

BULK TABLE

ZONING DISTRICT: IB - INTERCHANGE BUSINESS

USE SUBJECT TO SITE PLAN APPROVAL - SHOPPING CENTER

MINIMUM	REQUIRED	PROPOSED	REMARKS
LOT AREA	5 ACRES	±15.09 ACRES *	OK
FRONT YARD SETBACK (RT 17K)	60 FEET	±57 FEET (EXISTING BANK)	VARIANCE PREVIOUSLY APPROVED
		84.53 FEET (PROP. PICK-UP CANOPY)	OK
FRONT YARD SETBACK (AUTO PARK PL)	60 FEET	36.5 FEET (PROP. FUEL CANOPY)	REQUIRES VARIANCE
REAR YARD SETBACK	60 FEET	52.02 FEET (PROP. BLDG.)	REQUIRES VARIANCE
SIDE YARD SETBACK			
ONE	50 FEET	56.7 FEET (EXISTING DEALERSHIP)	OK
BOTH	N/A	N/A	OK
LOT WIDTH	150 FEET	573 FEET (CONSOLIDATED LOT)	OK
LOT DEPTH	150 FEET	560 FEET (CONSOLIDATED LOT)	OK
MAXIMUM			
BUILDING HEIGHT	40 FEET	39 FEET (PROP. BLDG.)	OK
BUILDING COVERAGE	30%	16.9% (110,930 SQ. FT.) *	OK
SURFACE COVERAGE	80%	72.2% *	OK

* = BULK REQUIREMENTS ESTABLISHED USING THE FOUR (4) TAX LOTS 27.32, 44, 45 & 46.2 AS A UNIFIED SITE.

PARKING REQUIREMENTS:

BJ'S REQUIRED PARKING:
4.5 PARKING SPACES PER 1,000 SQ. FT. OF BUILDING
$(\frac{89,225\ SF}{1,000\ SF}) * 4.5$ = 402 SPACES

MUNICIPALITY REQUIRED PARKING:
SHOPPING CENTER IN EXCESS OF 25,000 SQ. FT. - 1 SPACE PER 225 SQ. FT. GROSS LEASEABLE FLOOR AREA
$(\frac{89,225\ SF\ (BJ'S) + 4,100\ SF\ (BANK) + 14,934\ (DEALERSHIP)}{225\ SF})$ = 482 SPACES

PARKING PROVIDED:

BJ'S: 374 TOTAL SPACES (INCLUDING 9 ADA ACCESSIBLE SPACES)

BANK: 52 TOTAL SPACES

DEALERSHIP: 67 PARKING SPACES (PLUS INVENTORY SPACES)

TOTAL: 493 PARKING SPACES PROVIDED

CART CORRALS PROVIDED = 12

LANDSCAPED ISLAND REQUIREMENTS FOR CONSOLIDATED TAX LOT:

PROPOSED PARKING AREA: = 139,607 SQ. FT.
5% INTERIOR ISLAND REQUIREMENT: 0.05 * 139,607 = 6,980 SQ. FT.
INTERIOR ISLAND AREA PROVIDED: = 10,684 SQ. FT.

SIGN LEGEND:

- NO PARKING (NP)
- LOADING ZONE (LZ)
- ONE WAY (OW)
- NO STANDING (NS)
- KEEP RIGHT (KR)
- NO LEFT TURN (NLT)
- DO NOT ENTER (NE)
- STOP (S)
- ADA PARKING ONLY (HC)
- NO RIGHT TURN (NR)

NOTES:

1. EXISTING SITE INFORMATION TAKEN FROM MAP REFERENCE ENTITLED "BOUNDARY AND TOPOGRAPHIC SURVEY FOR GODDARD DEVELOPMENT PARTNERS IV, LLC - BJ'S WHOLESALE CLUB", PREPARED BY MASER CONSULTING P.A. REVISED 5/24/19.
2. EXISTING SITE INFORMATION SHOWN FOR TAX LOT 97-2-45 TAKEN FROM BEST AVAILABLE MAPPING.
3. EXISTING SITE INFORMATION SHOWN FOR TAX LOT 97-2-27.32 TAKEN FROM MAP REFERENCE ENTITLED "SURVEY MAP & SITE PLAN FOR LANDS OF 800 AUTO PARK PLACE, LLC", PREPARED BY MERCURIO-NORTON-TAROLLI-MARSHALL ENGINEERING & LAND SURVEYING, LAST REVISED 06/22/2016.
4. THE PROPERTY IS NOT WITHIN ANY ONE-HUNDRED-YEAR FLOOD PLAIN AS PER FLOOD INSURANCE RATE MAP NO. 36071C0139E & NO. 36071C0143E, BOTH DATED AUGUST 3, 2009.
5. THE PROPERTY DOES NOT HAVE ANY ON-SITE WETLANDS AS PER AVAILABLE MAPPING SOURCES.
6. SCHOOL DISTRICT: NEWBURGH
7. FIRE DEPARTMENT: GOODWILL FIRE

LEGEND

EXISTING / PROPOSED

- TRAVERSE LINE, CENTER LINE OR BASELINE (LABEL AS SUCH)
- RIGHT OF WAY LINE
- PROPERTY LINE
- EDGE OF PAVEMENT
- CURB
- DEPRESSED CURB
- SIDEWALK
- FENCES
- TREELINE
- ROADWAY SIGNS
- WETLAND LINE
- MUNICIPAL BOUNDARY LINE
- STALL COUNT
- ADA ACCESSIBLE STALL
- DEPRESSED CURB AND ADA RAMP (HC)
- DIRECTION OF TRAFFIC FLOW

SCALE: 1" = 40'

MASER CONSULTING P.A.
Customer Loyalty through Client Satisfaction
www.maserconsulting.com
Engineers ■ Planners ■ Surveyors
Landscape Architects ■ Environmental Scientists

ANDREW B. FETHERSTON
NEW YORK LICENSED PROFESSIONAL ENGINEER - LICENSE NUMBER: 073555-1

BJ's WHOLESALE CLUB

FOR

GDPBJ, LLC

SECTION 97
BLOCK 2
LOTS 27.32, 44, 45 & 46.2

TOWN OF NEWBURGH
ORANGE COUNTY
NEW YORK STATE

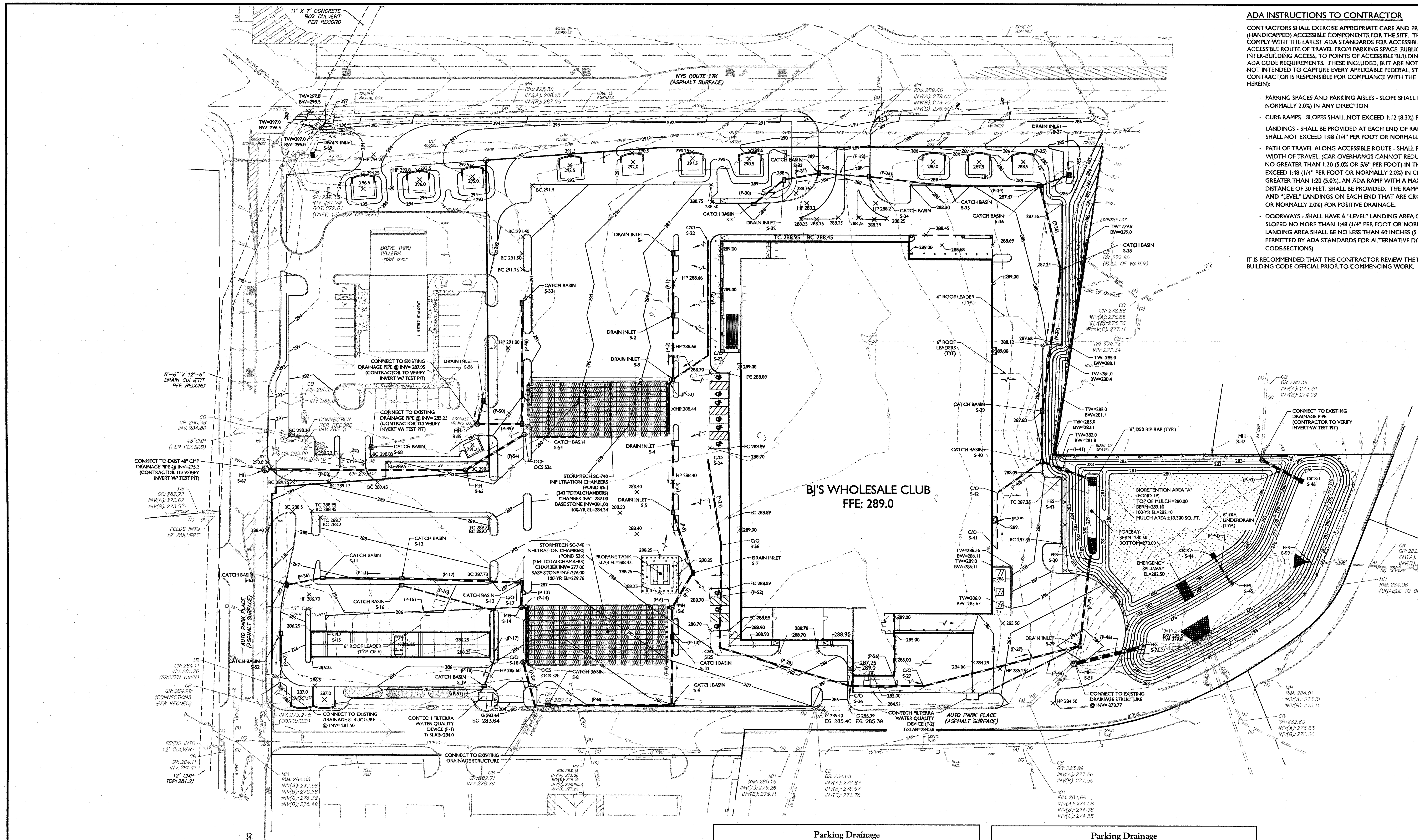
NEW WINDSOR OFFICE
555 Hudson Valley Avenue
Suite 101
New Windsor, NY 12553
Phone: 845.564.4495
Fax: 845.567.1025

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	05/24/19	CDR	ABF

PROJECT NUMBER: 18000471A
DRAWING NAME: C-LAYT

SHEET TITLE: DIMENSION PLAN

SHEET NUMBER: 03 of 15



ADA INSTRUCTIONS TO CONTRACTOR

CONTRACTORS SHALL EXERCISE APPROPRIATE CARE AND PRECISION IN CONSTRUCTION OF ADA (HANDICAPPED) ACCESSIBLE COMPONENTS FOR THE SITE. THESE COMPONENTS, AS CONSTRUCTED, MUST COMPLY WITH THE LATEST ADA STANDARDS FOR ACCESSIBLE DESIGN. FINISHED SURFACES ALONG THE ACCESSIBLE ROUTE OF TRAVEL FROM PARKING SPACE, PUBLIC TRANSPORTATION, PEDESTRIAN ACCESS, INTER-BUILDING ACCESS, TO POINTS OF ACCESSIBLE BUILDING ENTRANCE/EGRESS, SHALL COMPLY WITH THESE ADA CODE REQUIREMENTS. THESE INCLUDED, BUT ARE NOT LIMITED TO THE FOLLOWING (NOTE: THIS LIST IS NOT INTENDED TO CAPTURE EVERY APPLICABLE FEDERAL, STATE AND LOCAL RULE AND REGULATION. THE CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH THE LAW, WHETHER OR NOT STATED SPECIFICALLY HEREIN):

- PARKING SPACES AND PARKING AISLES - SLOPE SHALL NOT EXCEED 1:48 (1/4" PER FOOT OR NORMALLY 2.0%) IN ANY DIRECTION
- CURB RAMPS - SLOPES SHALL NOT EXCEED 1:12 (8.3%) FOR A MAXIMUM OF SIX (6) FEET.
- LANDINGS - SHALL BE PROVIDED AT EACH END OF RAMPS, SHALL PROVIDE POSITIVE DRAINAGE, AND SHALL NOT EXCEED 1:48 (1/4" PER FOOT OR NORMALLY 2.0%) CROSS SLOPE.
- PATH OF TRAVEL ALONG ACCESSIBLE ROUTE - SHALL PROVIDE A 36 INCH OR GREATER UNOBSTRUCTED WIDTH OF TRAVEL, (CAR OVERHANGS CANNOT REDUCE THIS MINIMUM WIDTH), THE SLOPE SHALL BE NO GREATER THAN 1:20 (5.0% OR 5/6" PER FOOT) IN THE DIRECTION OF TRAVEL, AND SHALL NOT EXCEED 1:48 (1/4" PER FOOT OR NORMALLY 2.0%) IN CROSS SLOPE. WHERE PATH OF TRAVEL WILL BE GREATER THAN 1:20 (5.0%), AN ADA RAMP WITH A MAXIMUM SLOPE OF 1:12 (8.3%), FOR A MAXIMUM DISTANCE OF 30 FEET, SHALL BE PROVIDED. THE RAMP SHALL HAVE ADA HAND RAILS AND "LEVEL" LANDINGS ON EACH END THAT ARE CROSS SLOPED NO MORE THAN 1:48 (1/4" PER FOOT OR NORMALLY 2.0%) FOR POSITIVE DRAINAGE.
- DOORWAYS - SHALL HAVE A "LEVEL" LANDING AREA ON THE EXTERIOR SIDE UP THE DOOR THAT IS SLOPED NO MORE THAN 1:48 (1/4" PER FOOT OR NORMALLY 2.0%) FOR POSITIVE DRAINAGE. THIS LANDING AREA SHALL BE NO LESS THAN 60 INCHES (5 FEET) LONG, EXCEPT WHERE OTHERWISE PERMITTED BY ADA STANDARDS FOR ALTERNATIVE DOORWAY OPENING CONDITIONS (SEE APPLICABLE CODE SECTIONS).

IT IS RECOMMENDED THAT THE CONTRACTOR REVIEW THE INTENDED CONSTRUCTION WITH THE LOCAL BUILDING CODE OFFICIAL PRIOR TO COMMENCING WORK.

Parking Drainage Pipe Table

Pipe I.D.	Description	Length	Invert Up	Invert Dn	Slope
P-1	18"HDPE	60'	285.05	284.75	0.50%
P-2	18"HDPE	61'	284.75	284.44	0.50%
P-4	18"HDPE	66'	284.58	284.25	0.50%
P-5	18"HDPE	61'	284.25	283.94	0.50%
P-6	24"HDPE	5'	280.24	279.75	10.56%
P-7	18"HDPE	38'	283.94	283.75	0.50%
P-8	18"HDPE	118'	281.30	280.71	0.50%
P-9	18"HDPE	66'	280.71	280.38	0.50%
P-10	18"HDPE	28'	280.38	280.24	0.50%
P-11	12"HDPE	76'	283.33	282.95	0.50%
P-12	18"HDPE	115'	282.95	282.37	0.50%
P-13	18"HDPE	24'	282.37	282.26	0.50%
P-14	18"HDPE	5'	280.50	279.75	16.65%
P-15	8"HDPE	187'	282.12	280.50	0.86%
P-16	10"HDPE	91'	282.40	281.94	0.50%
P-17	10"HDPE	48'	281.94	281.70	0.50%
P-18	10"HDPE	26'	281.70	281.57	0.50%
P-19	10"HDPE	5'	278.67	277.80	16.09%
P-20	18"HDPE	45'	277.91	277.68	0.51%
P-22	12"HDPE	110'	285.80	285.25	0.50%
P-23	12"HDPE	40'	285.25	284.45	1.99%
P-24	15"HDPE	83'	284.75	284.34	0.50%
P-25	15"HDPE	129'	282.14	281.50	0.50%
P-26	15"HDPE	70'	281.50	281.15	0.50%
P-27	15"HDPE	155'	281.15	280.37	0.50%
P-29	18"HDPE	83'	280.00	279.20	0.95%
P-30	12"HDPE	37'	284.80	284.61	0.50%

Parking Drainage Pipe Table

Pipe I.D.	Description	Length	Invert Up	Invert Dn	Slope
P-31	12"HDPE	34'	284.61	284.44	0.50%
P-32	12"HDPE	48'	284.44	284.21	0.50%
P-33	12"HDPE	76'	284.21	283.83	0.50%
P-34	12"HDPE	88'	283.83	282.60	1.39%
P-35	12"HDPE	30'	282.75	282.60	0.50%
P-36	15"HDPE	83'	282.60	281.77	1.00%
P-37	18"HDPE	137'	281.77	280.40	1.00%
P-38	18"HDPE	48'	280.40	279.92	1.00%
P-39	12"HDPE	55'	285.88	285.61	0.50%
P-40	12"HDPE	52'	285.51	285.25	0.50%
P-41	18"HDPE	42'	279.92	279.69	0.54%
P-42	15"HDPE	28'	276.15	276.00	0.53%
P-43	24"HDPE	42'	275.22	275.22	0.00%
P-44	10"HDPE	109'	281.06	280.02	0.96%
P-46	36"HDPE	61'	278.77	278.77	0.00%
P-47	12"HDPE	52'	282.75	281.50	2.42%
P-48	15"HDPE	116'	288.74	288.16	0.50%
P-49	15"HDPE	43'	288.16	287.95	0.50%
P-50	15"HDPE	23'	288.07	287.95	0.52%
P-52	15"HDPE	99'	284.34	283.84	0.50%
P-53	18"HDPE	6'	284.44	283.75	11.13%
P-54	18"HDPE	66'	282.80	282.15	0.98%
P-56	12"HDPE	35'	283.50	283.33	0.50%
P-57	10"HDPE	7'	281.57	281.50	0.94%
P-58	18"HDPE	190'	282.15	280.25	1.00%

Parking Drainage Structure Table

Structure I.D.	Description	Rim/Grate	Pipes (In)	Inverts (In)	Pipes (Out)	Inverts (Out)
OCS S2a	48 in. dia. CYLINDER MH	290.45			18" HDPE	282.80
OCS S2b	48 in. dia. CYLINDER MH	285.53			18" HDPE	277.91
S-1	30 in. x 48 in. Drain Inlet	288.55			18" HDPE	285.05
S-2	30 in. x 48 in. Drain Inlet	288.55	18" HDPE	284.75	18" HDPE	284.75
S-3	30 in. x 48 in. Drain Inlet	288.36	18" HDPE 12" HDPE	284.44 284.45	18" HDPE	284.44
S-4	30 in. x 48 in. Drain Inlet	288.35			18" HDPE	284.58
S-5	30 in. x 48 in. Drain Inlet	288.10	18" HDPE	284.25	18" HDPE	284.25
S-6	48 in. dia. CYLINDER MH	288.30	18" HDPE 18" HDPE	280.24 283.75	24" HDPE	280.24
S-7	30 in. x 48 in. Drain Inlet	288.17	18" HDPE	283.94	18" HDPE	283.94
S-8	30 in. x 48 in. Catch Basin	284.80			18" HDPE	281.30
S-9	30 in. x 48 in. Catch Basin	285.99	18" HDPE	280.71	18" HDPE	280.71
S-10	30 in. x 48 in. Catch Basin	287.63	18" HDPE	280.38	18" HDPE	280.38
S-11	30 in. x 48 in. Catch Basin	286.90	12" HDPE	283.33	12" HDPE	283.33
S-12	30 in. x 48 in. Catch Basin	287.30	12" HDPE	282.95	18" HDPE	282.95
S-13	30 in. x 48 in. Catch Basin	286.99	18" HDPE	282.37	18" HDPE	282.37
S-14	48 in. dia. CYLINDER MH	286.61	8" HDPE 18" HDPE	280.50 282.26	18" HDPE	280.50
S-15	8 in. Clean Out	286.12			8" HDPE	282.12
S-16	30 in. x 48 in. Catch Basin	285.30			10" HDPE	282.40
S-17	10 in. Clean Out	286.62	10" HDPE	281.94	10" HDPE	281.94
S-18	10 in. Clean Out	286.60	10" HDPE	281.70	10" HDPE	281.70
S-19	30 in. x 48 in. Catch Basin	285.25	10" HDPE	281.57	10" HDPE	281.57
S-22	12 in. Clean Out	288.80			12" HDPE	285.80
S-23	12 in. Clean Out	288.85	12" HDPE	285.25	12" HDPE	285.25
S-24	12 in. Clean Out	288.64			15" HDPE	284.75
S-25	12 in. Clean Out	288.32	15" HDPE	283.84	15" HDPE	282.14
S-26	12 in. Clean Out	286.42	15" HDPE	281.50	15" HDPE	281.50
S-27	12 in. Clean Out	284.61	15" HDPE	281.15	15" HDPE	281.15
S-29	30 in. x 48 in. Drain Inlet	283.60	15" HDPE 10" HDPE	280.37 280.02	18" HDPE	280.00
S-30	18 inch Flared End Section	280.83	18" HDPE	279.20		
S-31	30 in. x 48 in. Catch Basin	287.84			12" HDPE	284.80
S-32	30 in. x 48 in. Drain Inlet	287.75	12" HDPE	284.61	12" HDPE	284.61

Parking Drainage Structure Table

Structure I.D.	Description	Rim/Grate	Pipes (In)	Inverts (In)	Pipes (Out)	Inverts (Out)
S-33	30 in. x 48 in. Catch Basin	287.80	12" HDPE	284.44	12" HDPE	284.44
S-34	30 in. x 48 in. Catch Basin	287.80	12" HDPE	284.21	12" HDPE	284.21
S-35	30 in. x 48 in. Catch Basin	287.75	12" HDPE	283.83	12" HDPE	283.83
S-36	30 in. x 48 in. Catch Basin	287.47	12" HDPE 12" HDPE	282.60 282.60	15" HDPE	282.60
S-37	30 in. x 48 in. Drain Inlet	284.85			12" HDPE	282.75
S-38	30 in. x 48 in. Catch Basin	287.36	15" HDPE	281.77	18" HDPE	281.77
S-39	30 in. x 48 in. Catch Basin	287.80	18" HDPE	280.40	18" HDPE	280.40
S-40	30 in. x 48 in. Catch Basin	288.05	18" HDPE 12" HDPE	279.92 285.25	18" HDPE	279.92
S-41	12 in. Clean Out	288.88			12" HDPE	285.88
S-42	12 in. Clean Out	288.88	12" HDPE	285.61	12" HDPE	285.51
S-43	18 inch Flared End Section	281.32	18" HDPE	279.69		
S-44	48 in. x 48 in. OCS	282.00			15" HDPE	276.15
S-45	15 inch Flared End Section	277.36	15" HDPE	276.00		
S-46	48 in. x 48 in. OCS	277.88			24" HDPE	275.22
S-47	48 in. dia. CYLINDER MH	283.00	24" HDPE	275.22		
S-51	60 in. dia. CYLINDER MH	284.20	36" HDPE	278.77		
S-52	30 in. x 48 in. Catch Basin	285.89			12" HDPE	282.75
S-53	30 in. x 48 in. Catch Basin	291.31			15" HDPE	288.74
S-54	30 in. x 48 in. Catch Basin	290.54	15" HDPE	288.16	15" HDPE	288.16
S-55	48 in. dia. CYLINDER MH	291.25	15" HDPE 15" HDPE	287.95 287.95		
S-56	30 in. x 48 in. Drain Inlet	291.17			15" HDPE	288.07
S-58	12 in. Clean Out	288.75	15" HDPE	284.34	15" HDPE	284.34
S-59	12 inch Flared End Section	278.68				
S-63	30 in. x 48 in. Catch Basin	286.51			12" HDPE	283.50
S-65	48 in. dia. CYLINDER MH	290.17	18" HDPE	282.15	18" HDPE	282.15
S-67	72 in. dia. CYLINDER MH	289.80	18" HDPE	280.25		
S-68	30 in. x 48 in. Catch Basin	290.75				
S-69	30 in. x 48 in. Drain Inlet	293.50				
S-71	36 inch Flared End Section	281.98			36" HDPE	278.77

SCALE: 1" = 40'

LEGEND

EXISTING — PROPOSED

- TRAVERSE LINE, CENTER LINE OR BASELINE (LABEL AS SUCH)
- RIGHT OF WAY LINE
- PROPERTY LINE
- EDGE OF PAVEMENT
- CURB (FACE / BACK)
- DEPRESSED CURB
- SIDEWALK
- FENCES
- TREELINE
- ROADWAY SIGNS
- WETLAND LINE
- MUNICIPAL BOUNDARY LINE
- 'B' INLET
- 'E' INLET
- STORM MANHOLE
- SANITARY MANHOLE
- FLARED END SECTION
- HEADWALL
- HYDRANT
- POLE MOUNTED LIGHT
- CONTOURS
- SPOT ELEVATION (x G 29.0)
- DIRECTION OF OVERLAND FLOW
- TOP OF CURB ELEVATION (x TC 29.0)
- BOTTOM OF CURB ELEVATION (x BC 29.0)
- TOP OF DEPRESSED CURB ELEVATION (x TDC 29.0)

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REV	DATE	DRAWN BY	DESCRIPTION
1	06/18/19	CDR	REVISED PER COMMENTS AND SWPPP DESIGN
2	[illegible]	CDR	REVISED PER PLANNING BOARD COMMENTS [illegible]

ANDREW B. FETHERSTON
NEW YORK LICENSED PROFESSIONAL ENGINEER - LICENSE NUMBER: 073555-1

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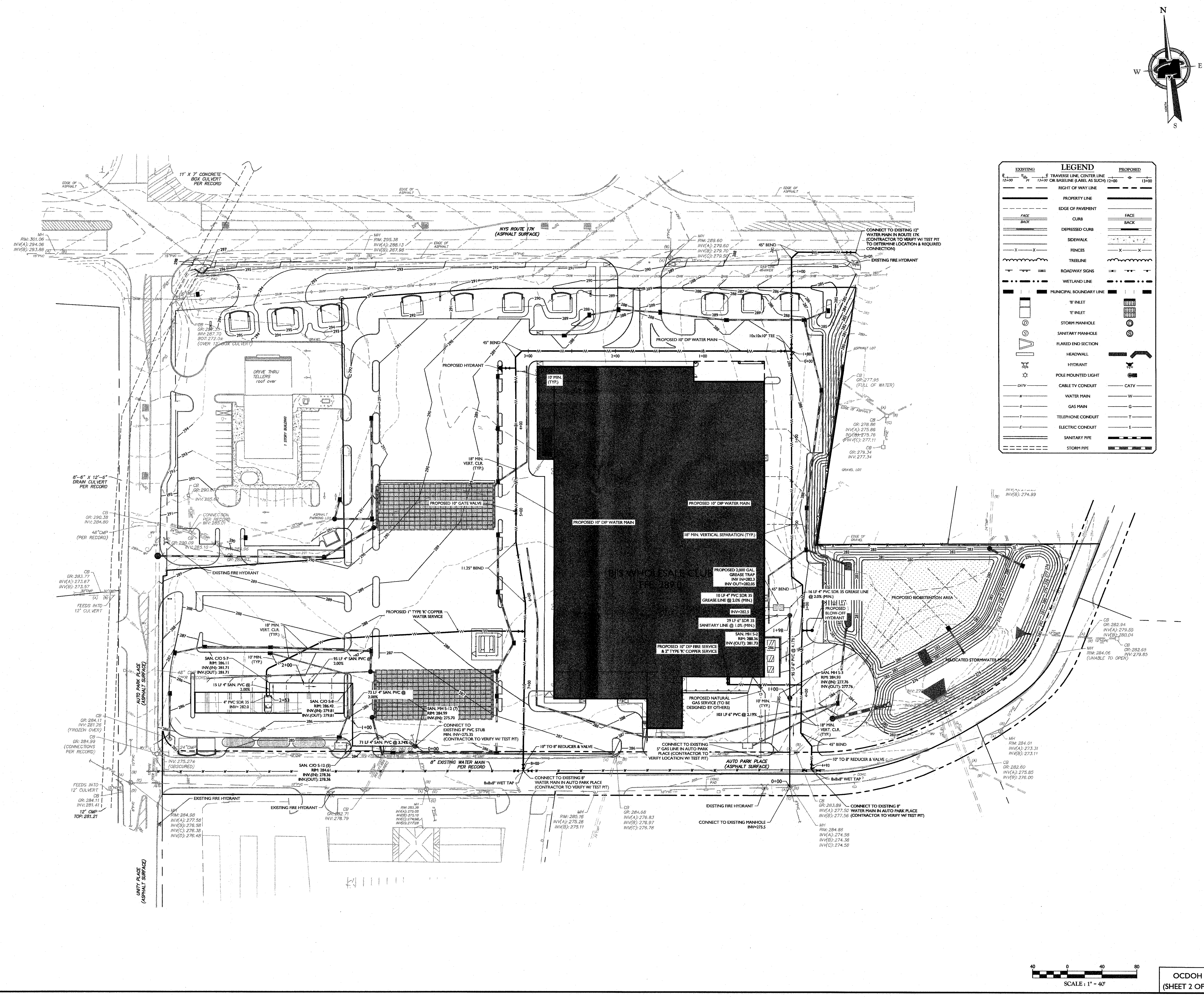
SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	05/24/19	CDR	ABF

PROJECT NUMBER: 18000471A
DRAWING NAME: C-GRAD

SHEET TITLE: GRADING & DRAINAGE PLAN

SHEET NUMBER: 04 of 15



OCDOH
(SHEET 2 OF 4)

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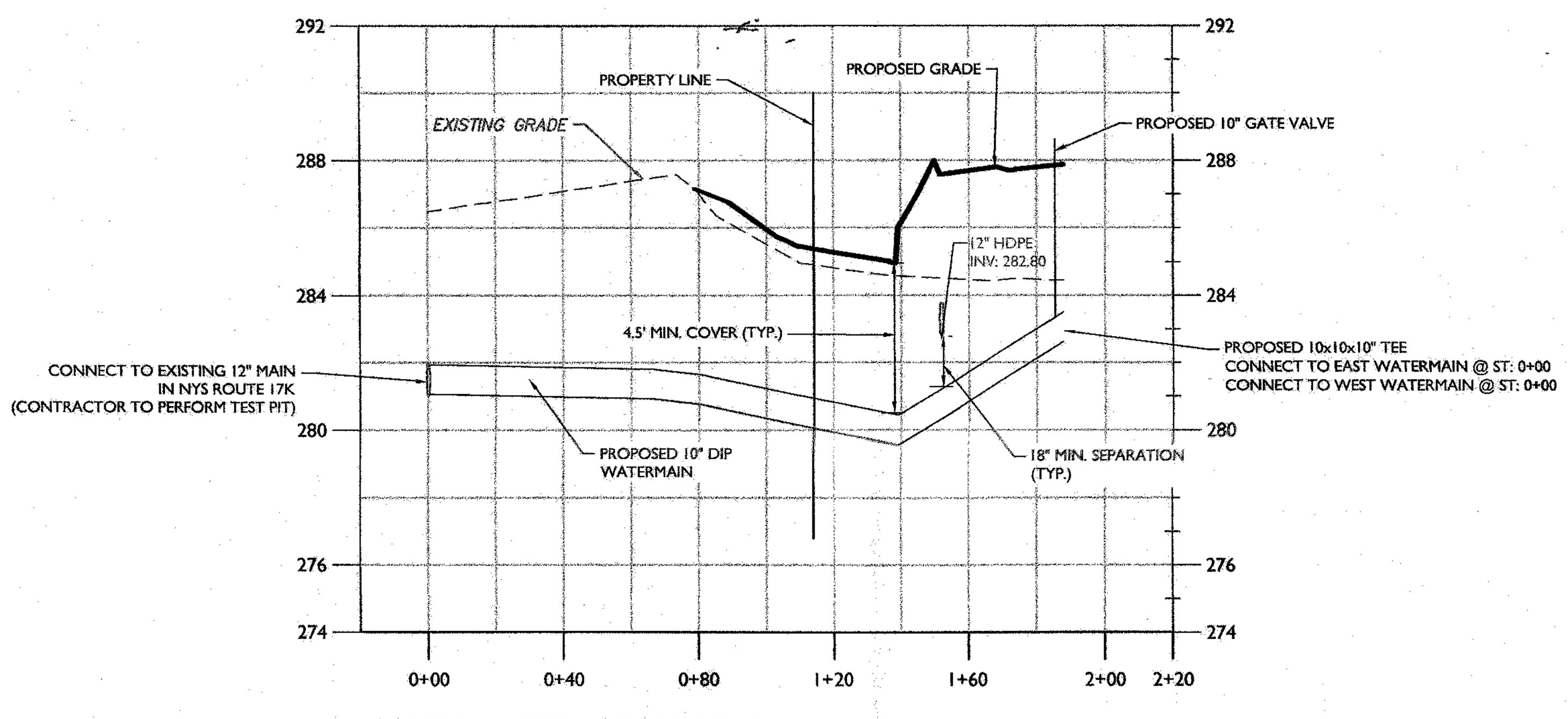
AS SHOWN	05/24/19	CDR	ABF

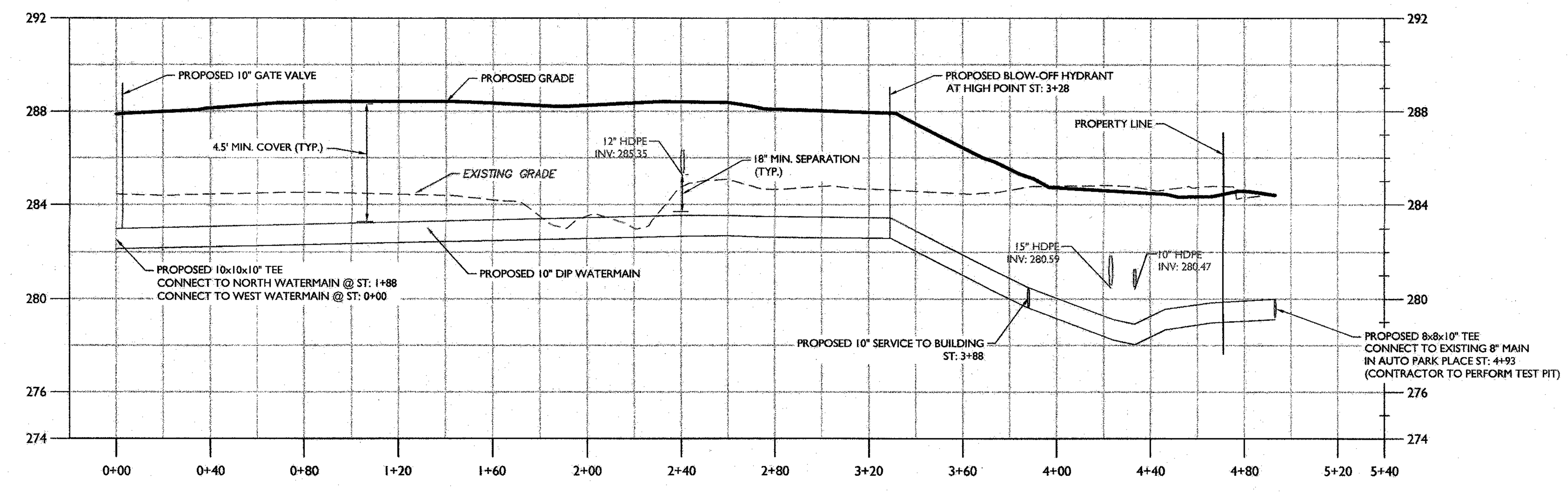
PROJECT NUMBER:	DRAWING NAME:
18000471A	C-UTIL

SHEET TITLE:
UTILITIES PLAN



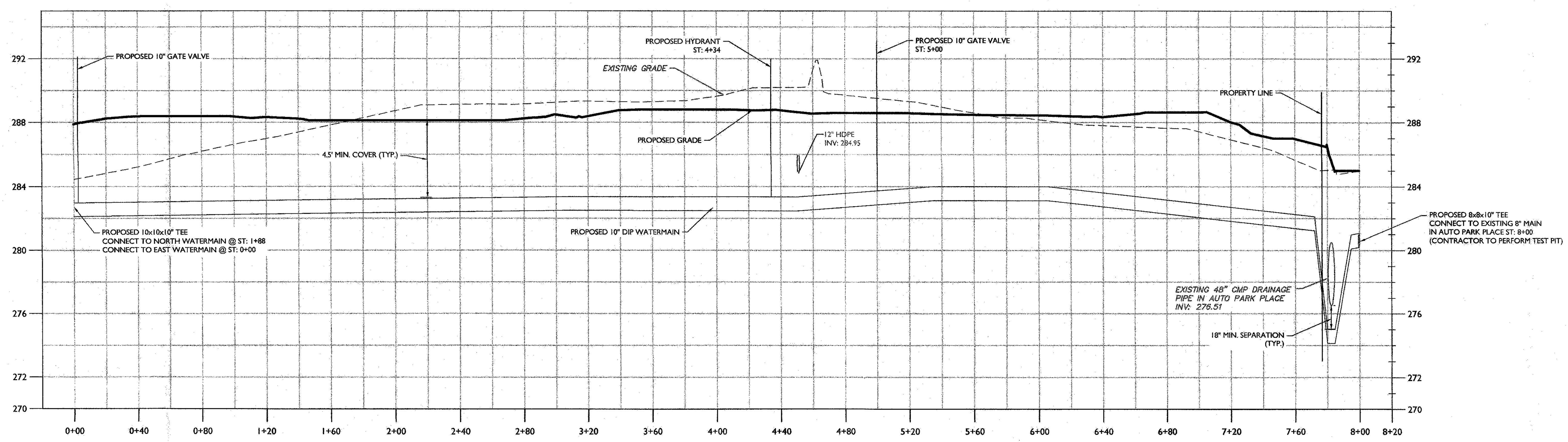
NORTH WATERMAIN PROFILE

1"=40'(H) 1"=4'(V)



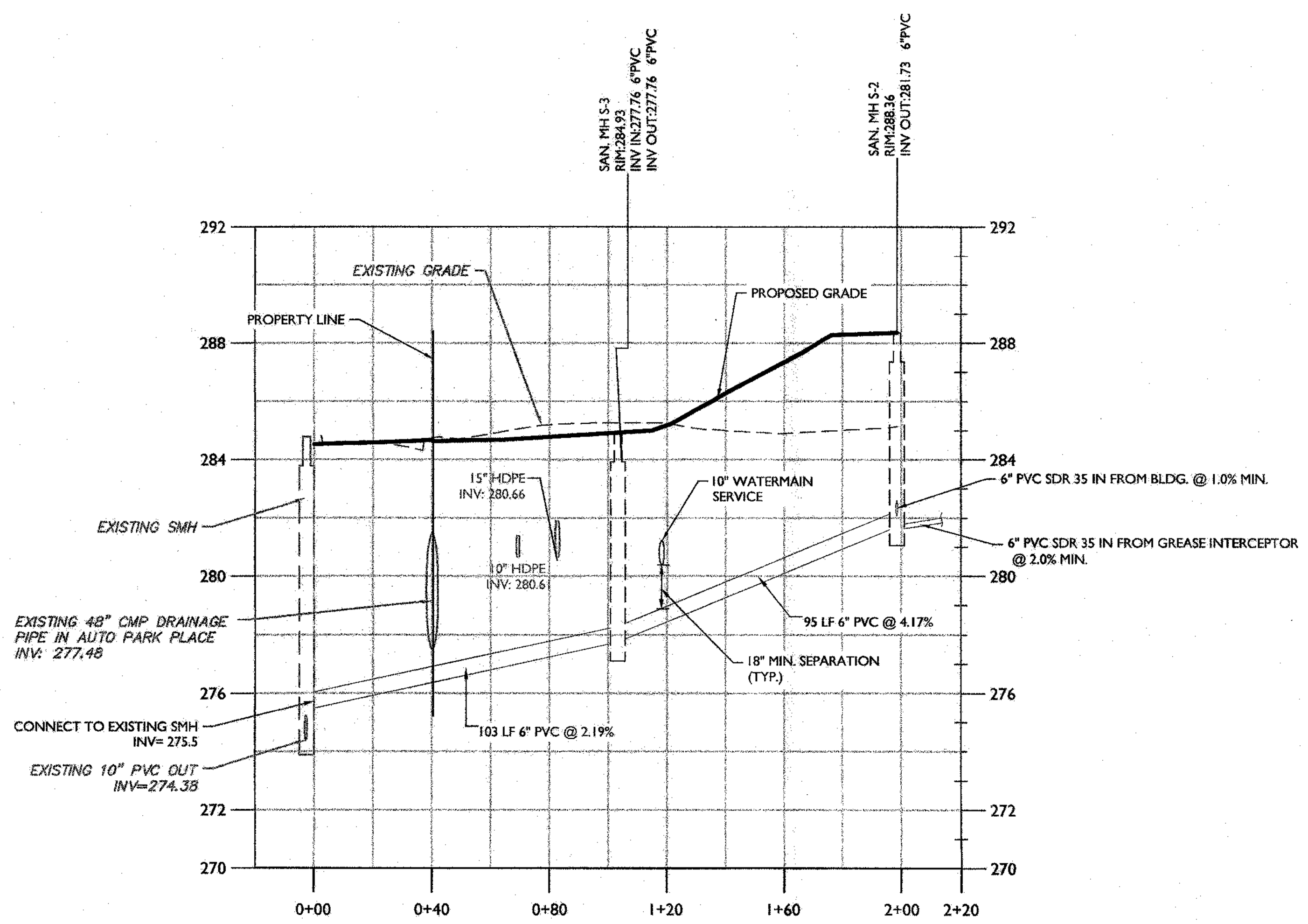
EAST WATERMAIN PROFILE

1"=40'(H) 1"=4'(V)



WEST WATERMAIN PROFILE

1"=40'(H) 1"=4'(V)



BUILDING SAN SEWER PROFILE

1"=40'(H) 1"=4'(V)

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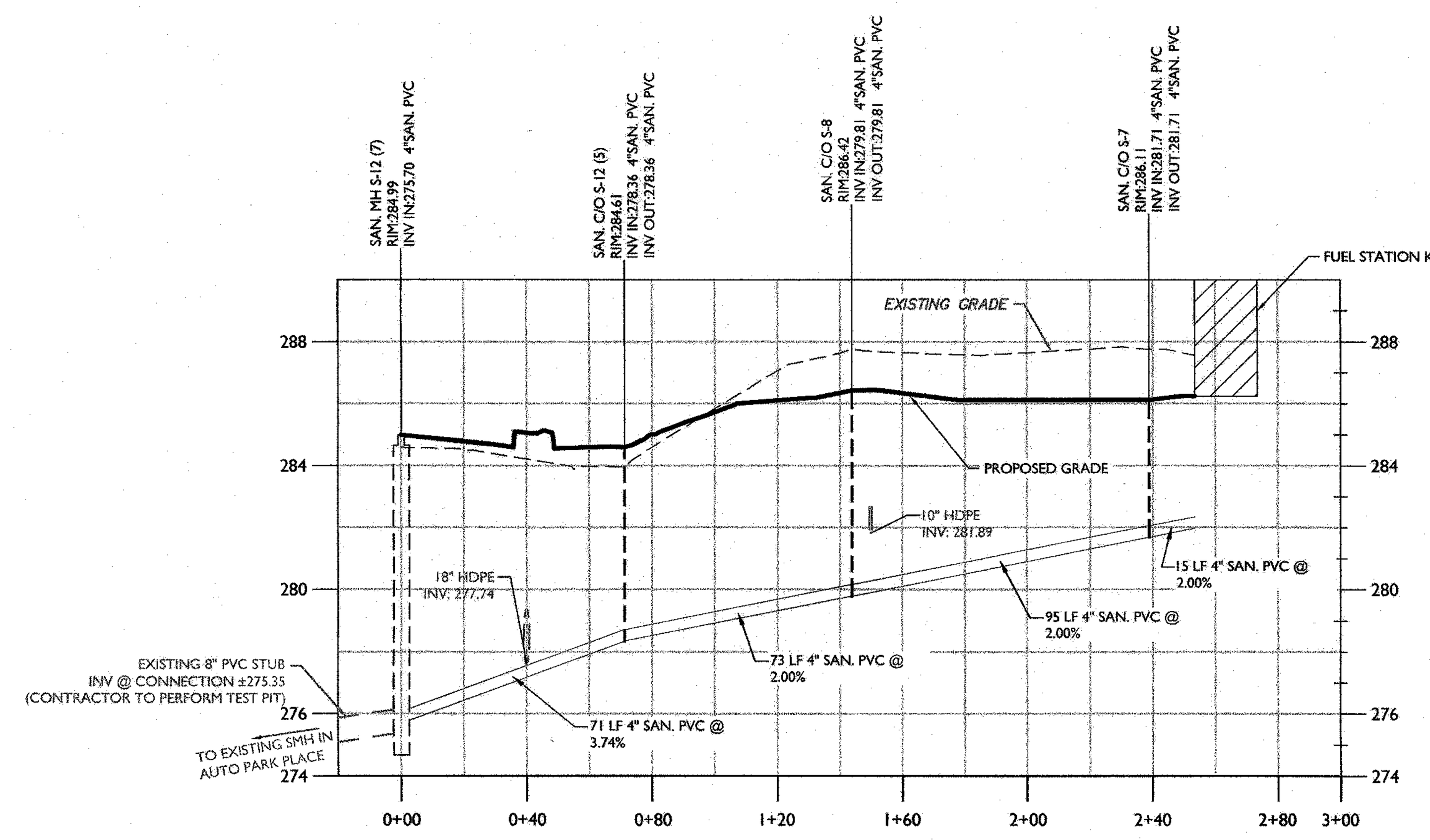

KIOSK SAN SEWER PROFILE

1"=40'(H) 1"=4'(V)

NOT FOR ORANGE COUNTY DEPARTMENT OF HEALTH REVIEW

SCALE: 1" = 4' VERTICAL

SCALE: 1" = 40' HORIZONTAL

NOTE:
SANITARY STRUCTURES ARE SHOWN ON PROFILES AS OUTSIDE OF THE STRUCTURE.
THERE ARE NO SUMPS PROPOSED IN THE SANITARY MANHOLES

OCDOH (SHEET 3 OF 4)

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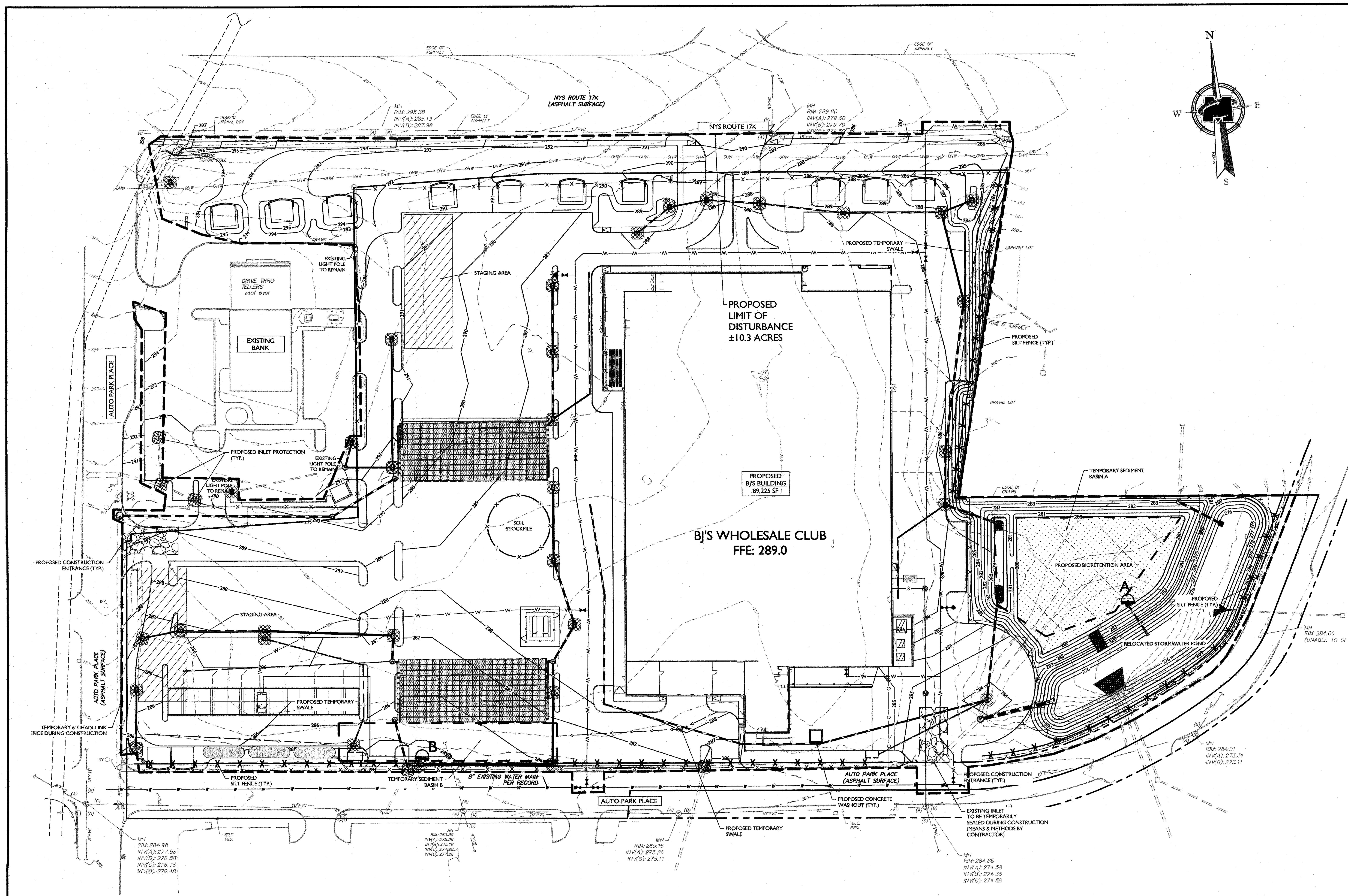
PROJECT NUMBER: 18000471A	DRAWING NAME: C-UTIL		

SHEET TITLE: UTILITY PROFILES

SHEET NUMBER: 06 of 15



GENERAL SOIL EROSION AND SEDIMENT CONTROL NOTES

1. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ARE TO BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
2. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN SEVEN (14) DAYS FOR DISTURBANCES LESS THAN FIVE (5) ACRES AND FIVE (7) DAYS FOR DISTURBANCES GREATER THAN FIVE (5) ACRES, AND NOT SUBJECT TO CONSTRUCTION TRAFFIC, WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW, OR EQUIVALENT MATERIAL, AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO STATE STANDARDS.
3. PERMANENT VEGETATION TO BE SEEDED OR SODDED ON ALL EXPOSED AREAS WITHIN FIVE (5) DAYS AFTER FINAL GRADING. MULCHING IS REQUIRED ON ALL SEEDING. WHEN HYDROSEEDING, MULCH SHALL NOT BE INCLUDED IN THE TANK WITH THE SEED.
4. ALL WORK TO BE DONE IN ACCORDANCE WITH THE NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL.
5. A SUBBASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS TO STABILIZE STREETS, ROADS, DRIVEWAYS, AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT, THE SUBBASE SHALL BE INSTALLED WITHIN FIVE (5) DAYS OF THE PRELIMINARY GRADING.
6. IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION (I.E. STEEP SLOPES AND ROADWAY EMBANKMENTS) WILL RECEIVE A TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO STATE STANDARDS.
7. ANY STEEP SLOPES RECEIVING PIPELINE INSTALLATION WILL BE BACKFILLED AND STABILIZED DAILY, AS THE INSTALLATION CONTINUES (I.E. SLOPES GREATER THAN 3:1).
8. THE STANDARD FOR STABILIZED CONSTRUCTION ACCESS REQUIRES THE INSTALLATION OF A STONE PAD, AT ALL CONSTRUCTION DRIVEWAYS, IMMEDIATELY AFTER INITIAL SITE DISTURBANCE.
9. IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, ANY SOIL HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDES SHALL BE COVERED WITH A MINIMUM OF TWELVE (12) INCHES OF SOIL HAVING A PH OF 5 OR MORE PRIOR TO SEEDBED PREPARATION. AREAS WHERE TREES OR SHRUBS ARE TO BE PLANTED SHALL BE COVERED WITH A MINIMUM OF TWENTY-FOUR (24) INCHES OF SOIL HAVING A PH OF 5 OR MORE.
10. AT THE TIME THE SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER, SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT IT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, NON-VEGETATIVE MEANS OF PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.
11. CONDUIT OUTLET PROTECTION MUST BE REVIEWED & SUPPLEMENTED AT ALL OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.
12. UNFILTERED DEWATERING IS NOT PERMITTED. TAKE ALL NECESSARY PRECAUTIONS DURING ALL DEWATERING OPERATIONS TO MINIMIZE SEDIMENT TRANSFER. ANY DEWATERING METHODS USED MUST BE IN ACCORDANCE WITH STATE STANDARDS.
13. SHOULD THE CONTROL OF DUST AT THE SITE BE NECESSARY, THE SITE WILL BE SPRINKLED UNTIL THE SURFACE IS WET, TEMPORARY VEGETATIVE COVER SHALL BE ESTABLISHED OR MULCH SHALL BE APPLIED IN ACCORDANCE WITH STATE STANDARDS FOR EROSION CONTROL.
14. ALL SOIL WASHED, DROPPED, SPILLED, OR TRACKED OUTSIDE THE LIMIT OF DISTURBANCE OR ONTO PUBLIC RIGHT-OF-WAY WILL BE REMOVED IMMEDIATELY.
15. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR ANY EROSION AND SEDIMENTATION THAT MAY OCCUR BELOW STORMWATER OUTFALLS OR OFFSITE AS A RESULT OF CONSTRUCTION OF THE PROJECT.
16. STOCKPILE AND STAGING LOCATIONS DETERMINED IN THE FIELD, SHALL BE PLACED WITHIN THE LIMITS OF DISTURBANCE ACCORDING TO THE CERTIFIED PLAN.
17. CONCRETE WASHOUT, DUMPSTER, & STAGING AREA LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR AND APPROVED AT THE PRE-CONSTRUCITON MEETING. THEY SHALL BE PLACED IN THE PROXIMITY OF THE CONSTRUCTION ENTRANCE AND STAGING AREAS AND SHALL BE USED PRIOR TO EXITING THE PROJECT SITE. THE LOCATION SHALL BE IN A PRACTICAL, CLEARLY DELINEATED, AREA AND BE MAINTAINED THROUGHOUT CONSTRUCTION.
18. ALL SOIL STOCKPILES ARE TO BE TEMPORARILY STABILIZED IN ACCORDANCE WITH THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
19. ALL PERMANENT SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED BY THE PROPERTY OWNER, AND SHALL BECOME THEIR RESPONSIBILITY.
20. PAVEMENT AREAS ARE TO BE KEPT CLEAN AT ALL TIMES.
21. DURING CONSTRUCTION, ANY ADDITIONAL CONTROL MEASURES AS DEEMED NECESSARY TO PREVENT EROSION OR CONTROL SEDIMENT BEYOND THOSE MEASURES SHOWN ON THE APPROVED PLAN SHALL BE INSTALLED OR EMPLOYED AT THE DIRECTION OF THE MUNICIPAL ENGINEER.
22. ALL TEMPORARY, STRUCTURAL EROSION AND SEDIMENT CONTROL MEASURES CAN BE REMOVED, WHEN ALL CONSTRUCTION ACTIVITY IDENTIFIED IN THE SWPPP HAS BEEN COMPLETED, ALL AREAS OF DISTURBANCE HAVE ACHIEVED FINAL STABILIZATION** AND ALL POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES HAVE BEEN CONSTRUCTED IN CONFORMANCE WITH THE SWPPP AND ARE OPERATIONAL.

**FINAL STABILIZATION - MEANS THAT ALL SOIL DISTURBANCE ACTIVITIES HAVE CEASED AND A UNIFORM, PERENNIAL VEGETATIVE COVER WITH A DENSITY OF EIGHTY (80) PERCENT OVER THE ENTIRE PERVIOUS SURFACE HAS BEEN ESTABLISHED; OR OTHER EQUIVALENT STABILIZATION MEASURES, SUCH AS PERMANENT LANDSCAPE MULCHES, ROCK RIP-RAP OR WASHED/CRUSHED STONE HAVE BEEN APPLIED ON ALL DISTURBED AREAS THAT ARE NOT COVERED BY PERMANENT STRUCTURES, CONCRETE OR PAVEMENT.

MAINTENANCE PLAN DURING CONSTRUCTION:

INSPECTION AND MAINTENANCE SHALL BE PERFORMED IN CONFORMANCE WITH GP-0-15-002. ALL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CHECKED FOR STABILITY AND OPERATION FOLLOWING EVERY RUNOFF-PRODUCING RAINFALL BUT IN NO CASE LESS THAN ONCE EVERY WEEK. ANY NEEDED REPAIRS WILL BE MADE IMMEDIATELY TO MAINTAIN ALL PRACTICES AS DESIGNED AND INSTALLED FOR THE PROJECT. THE SEDIMENT TRAPS WILL BE CLEANED OUT WHEN THE LEVEL OF SEDIMENT REACHES 25% OF ITS' CAPACITY. SEDIMENT WILL BE REMOVED FROM BEHIND THE SILT FENCE WHEN IT BECOMES APPROXIMATELY 6" DEEP AT THE FENCE. THE SEDIMENT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER. ALL SEEDED AREAS WILL BE FERTILIZED, RE-SEEDED AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS IN THE LANDSCAPE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.

NOTE: DURING THE CONSTRUCTION OF A PHASE, EACH SUBSEQUENT PHASE WILL HAVE BEEN CAPPED AND STABILIZED WITH DENSE GRASS COVER.

MAINTENANCE AGREEMENT NOTE:

THE OWNER/APPLICANT SHALL ENTER INTO AN ENFORCEABLE MAINTENANCE AGREEMENT WITH THE MUNICIPALITY RELATED TO MAINTENANCE OF STORMWATER FACILITIES. THE OWNER/APPLICANT IS RESPONSIBLE TO PERFORM ALL REQUIRED MAINTENANCE BOTH DURING CONSTRUCTION AND LONG-TERM. THE NATURE OF THE AGREEMENT IS TO ALLOW THE VILLAGE TO PERFORM MAINTENANCE AT THEIR OPTION SHOULD THE OWNER/APPLICANT FAIL TO ADEQUATELY MAINTAIN THE SYSTEM AS DETERMINED BY THE MUNICIPAL ENGINEER. MAINTENANCE OF THE STORMWATER SYSTEM SHALL BE PERFORMED IN ACCORDANCE WITH THE APPROVED SWPPP AND DETAIL SHEETS.

NOTE:

- FOR CONSTRUCTION SEQUENCE, AND CONSTRUCTION PHASING REFER TO THE STORMWATER POLLUTION PREVENTION PLAN PREPARED BY MASER CONSULTING.
- THE CONTRACTOR SHALL HAVE A PRE-CONSTRUCTION MEETING WITH THE MUNICIPALITY PRIOR TO EACH PHASE OF CONSTRUCTION (AS REQUESTED BY THE MUNICIPALITY).
- THIS PROJECT WILL REQUIRE A WAIVER FOR SOIL DISTURBANCE GREATER THAN 5 ACRES.

LEGEND FOR EROSION CONTROL DURING CONSTRUCTION

- CONSTRUCTION LIMIT LINE
- SILT FENCE
- SILT SOCK
- TEMPORARY CONSTRUCTION FENCE
- STORM INLET SEDIMENT TRAP
- STABILIZED CONSTRUCTION ENTRANCE
- STONE OUTLET SEDIMENT TRAP
- TEMPORARY SWALE
- TEMPORARY SEDIMENT BASIN
- MATERIAL STOCKPILE (S.P)
- CHECK DAM

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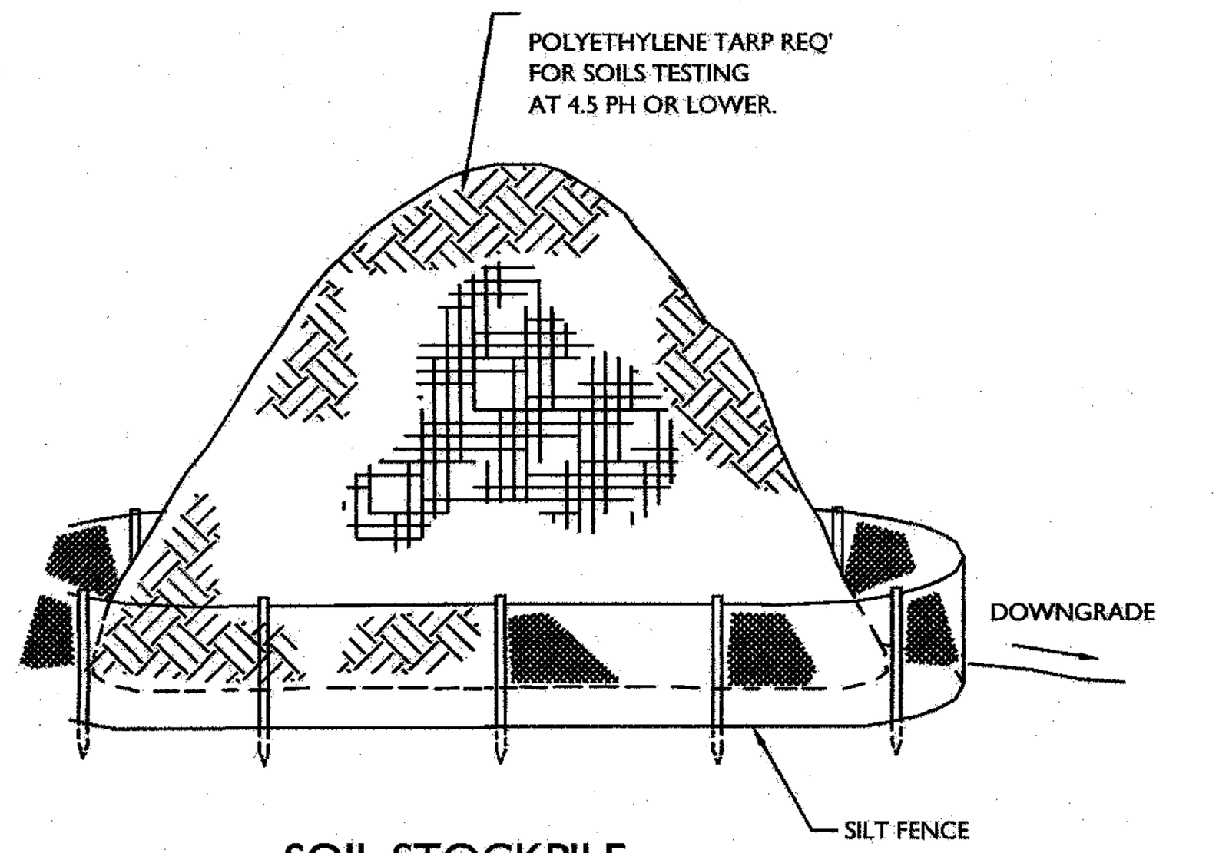
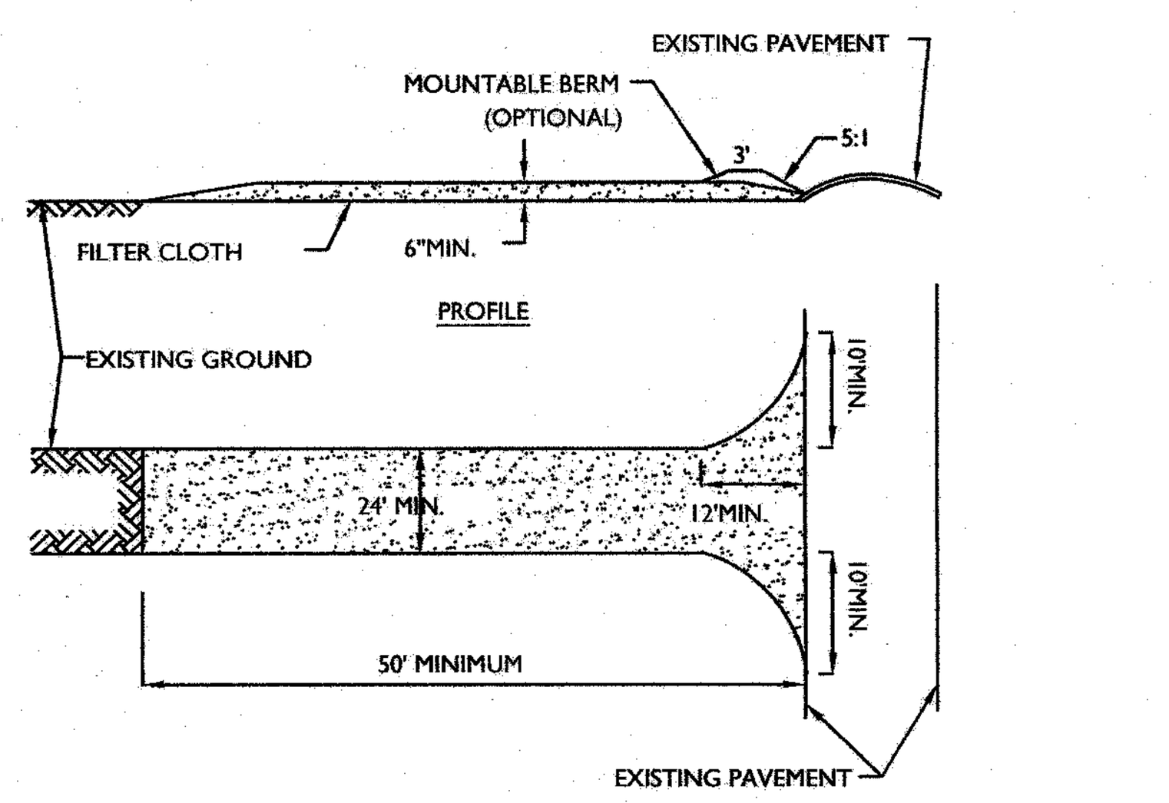
AS SHOWN	05/24/19	CDR	ABF
PROJECT NUMBER: 18000471A	DRAWING NAME: C-SESC		

SHEET TITLE: SOIL EROSION & SEDIMENT CONTROL PLAN



SOIL STOCKPILE

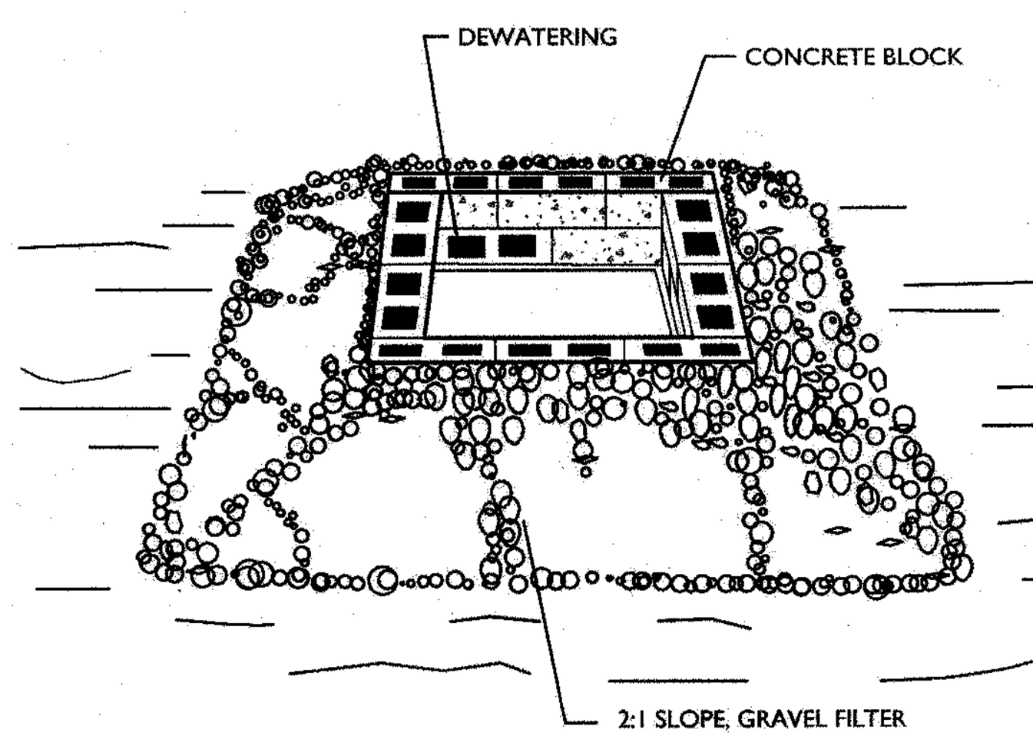


PLAN VIEW

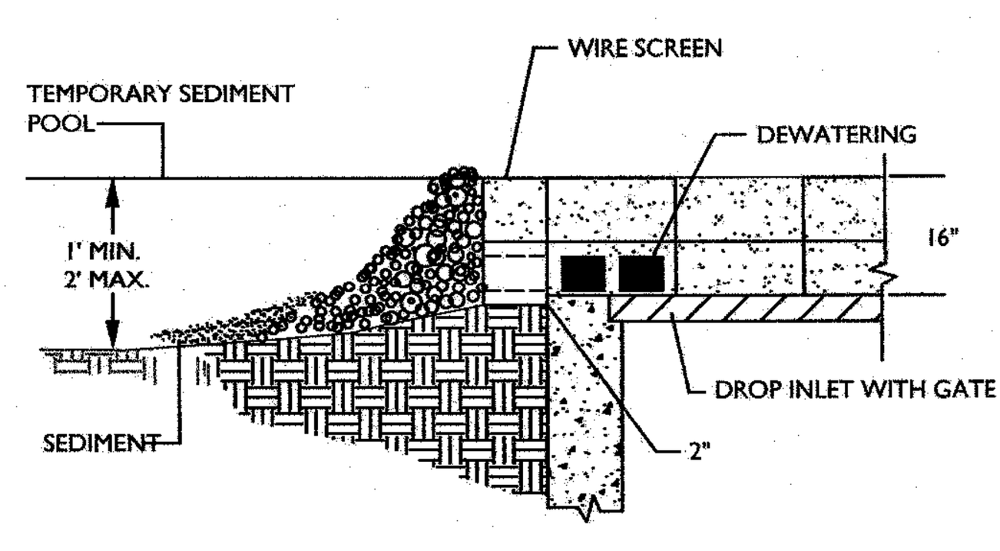
1. STONE SIZE - USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT. LENGTH - NOT LESS THAN 50 FEET
2. THICKNESS - NOT LESS THAN (6) INCHES.
3. WIDTH - 24'
4. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR
5. TO PLACING OF STONE. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED
6. TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTING BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED
9. AFTER EACH RAIN.

STABILIZED CONSTRUCTION ENTRANCE

N.T.S.



STONE & BLOCK PLAN VIEW



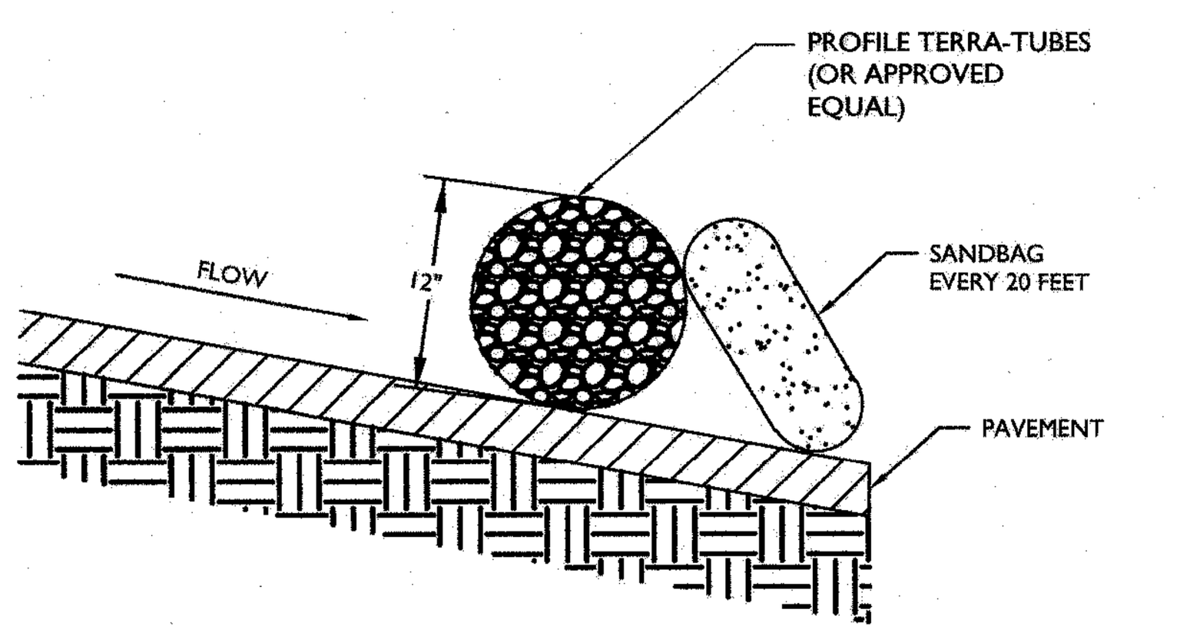
STONE & BLOCK DETAIL

CONSTRUCTION SPECIFICATIONS

1. LAY ONE BLOCK ON EACH SIDE OF THE STRUCTURE ON ITS SIDE FOR DEWATERING. FOUNDATION SHALL BE 2 INCHES MINIMUM BELOW REST OF INLET AND BLOCKS SHALL BE PLACED AGAINST INLET FOR SUPPORT.
2. HARDWARE CLOTH OR ½" WIRE MESH SHALL BE PLACED OVER BLOCK OPENINGS TO SUPPORT STONE.
3. USE CLEAN STONE OR GRAVEL ½" - ¾" IN DIAMETER PLACED 2 INCHES BELOW TOP OF THE BLOCK ON A 2:1 SLOPE OR FLATTER.

STONE & BLOCK DROP INLET PROTECTION

N.T.S.



COMPOSITE FILTER SOCK INSTALLATION ON PAVEMENT

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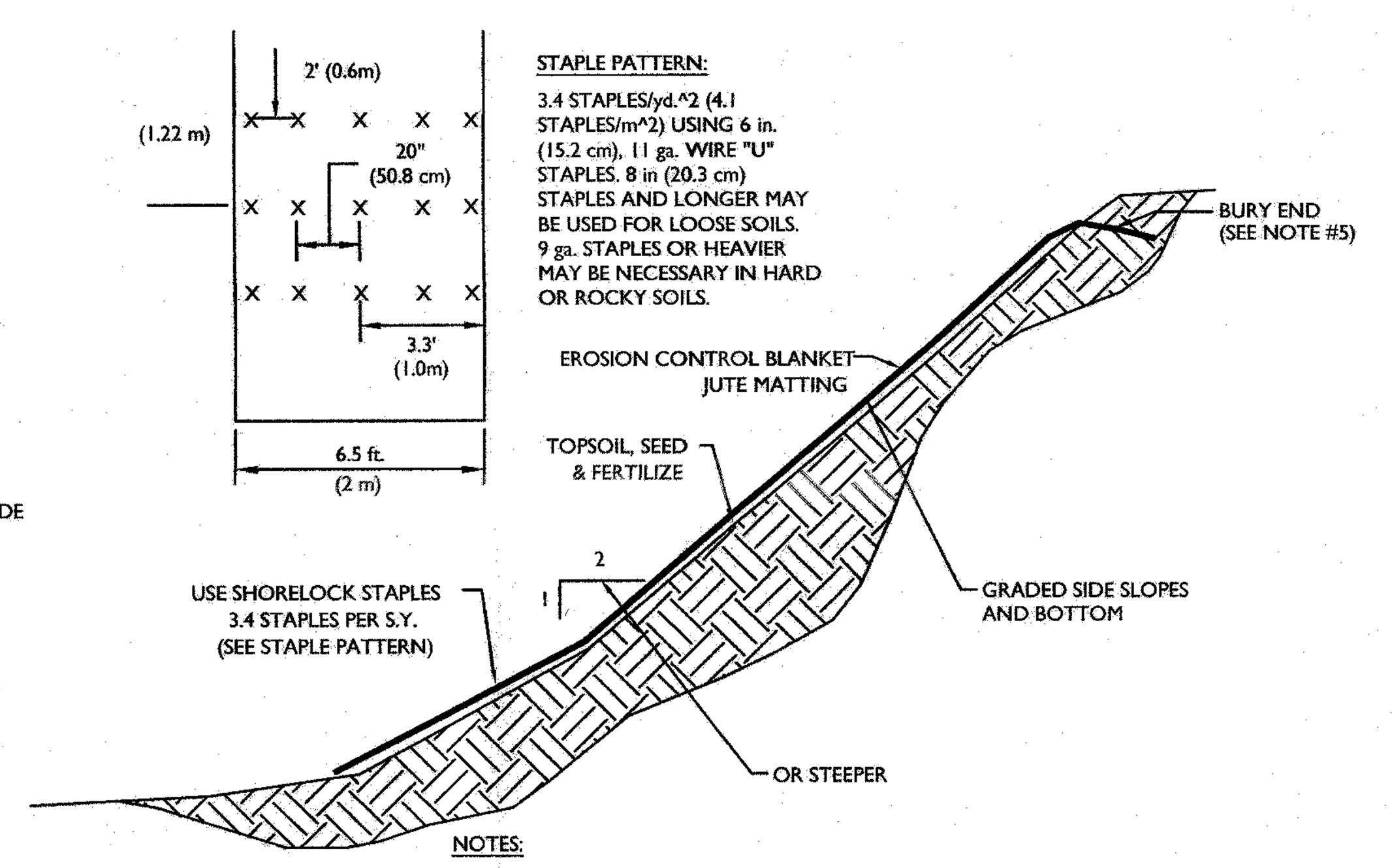

NOTES:

1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF TOPSOIL, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" (15 cm) DEEP x 6" (15 cm) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
3. ROLL BLANKETS IN DIRECTION OF WATER FLOW.
4. PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH A 6" (15 cm) OVERLAP. USE A DOUBLE ROW OF STAGGERED STAPLES 4" (10cm) APART TO SECURE BLANKETS.
5. FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPES MUST BE ANCHORED IN 6" (15 cm) DEEP X 6" (15 cm) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. BLANKETS ON SIDE SLOPES MUST BE OVERLAPPED 4" (10 cm) OVER THE CENTER BLANKET AND STAPLED [2" (5 cm) FOR C350 MATTING].
7. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED IN A 6" (15 cm) DEEP X 6" (15 cm) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
8. EROSION CONTROL BLANKET SHALL BE JUTE MATTING.

SLOPE STABILIZATION DETAIL

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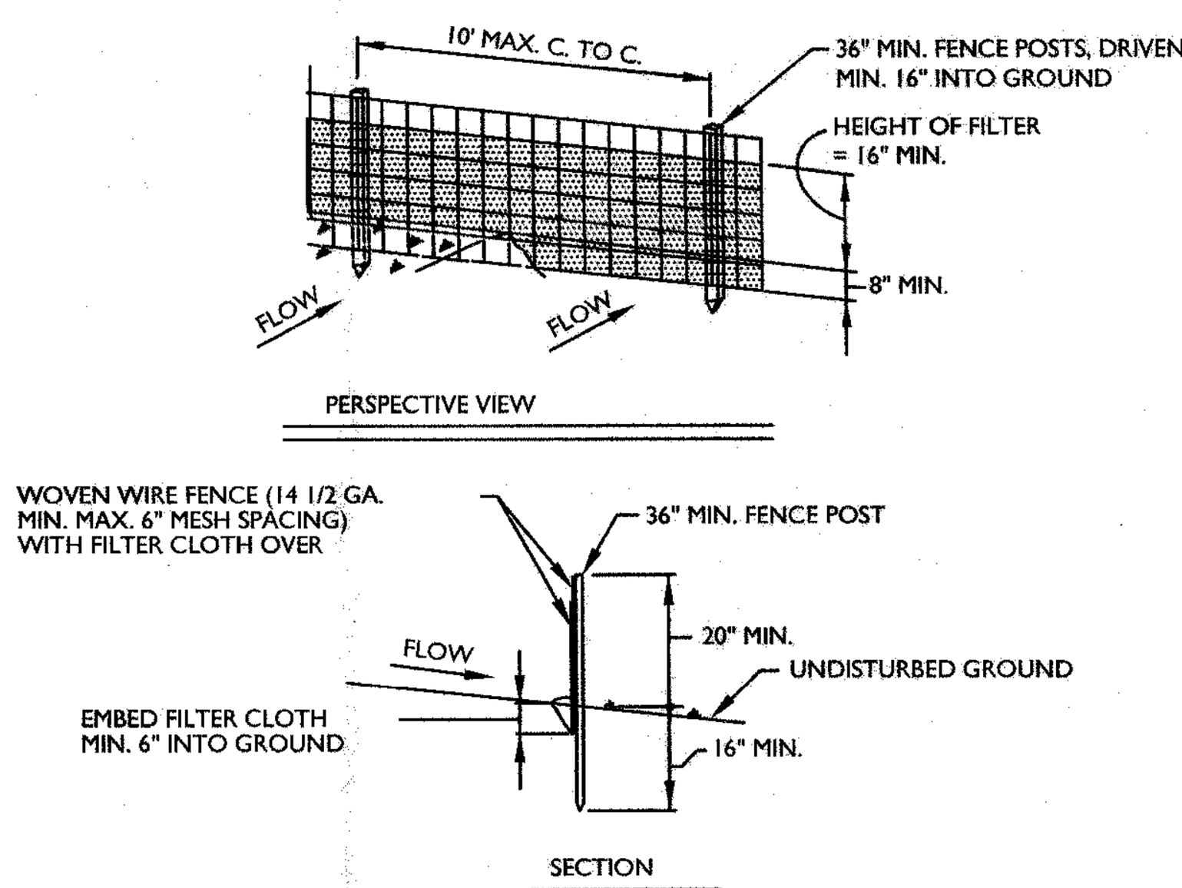


CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

POSTS: STEEL EITHER "T" OR "U" TYPE OR 2" HARDWOOD.

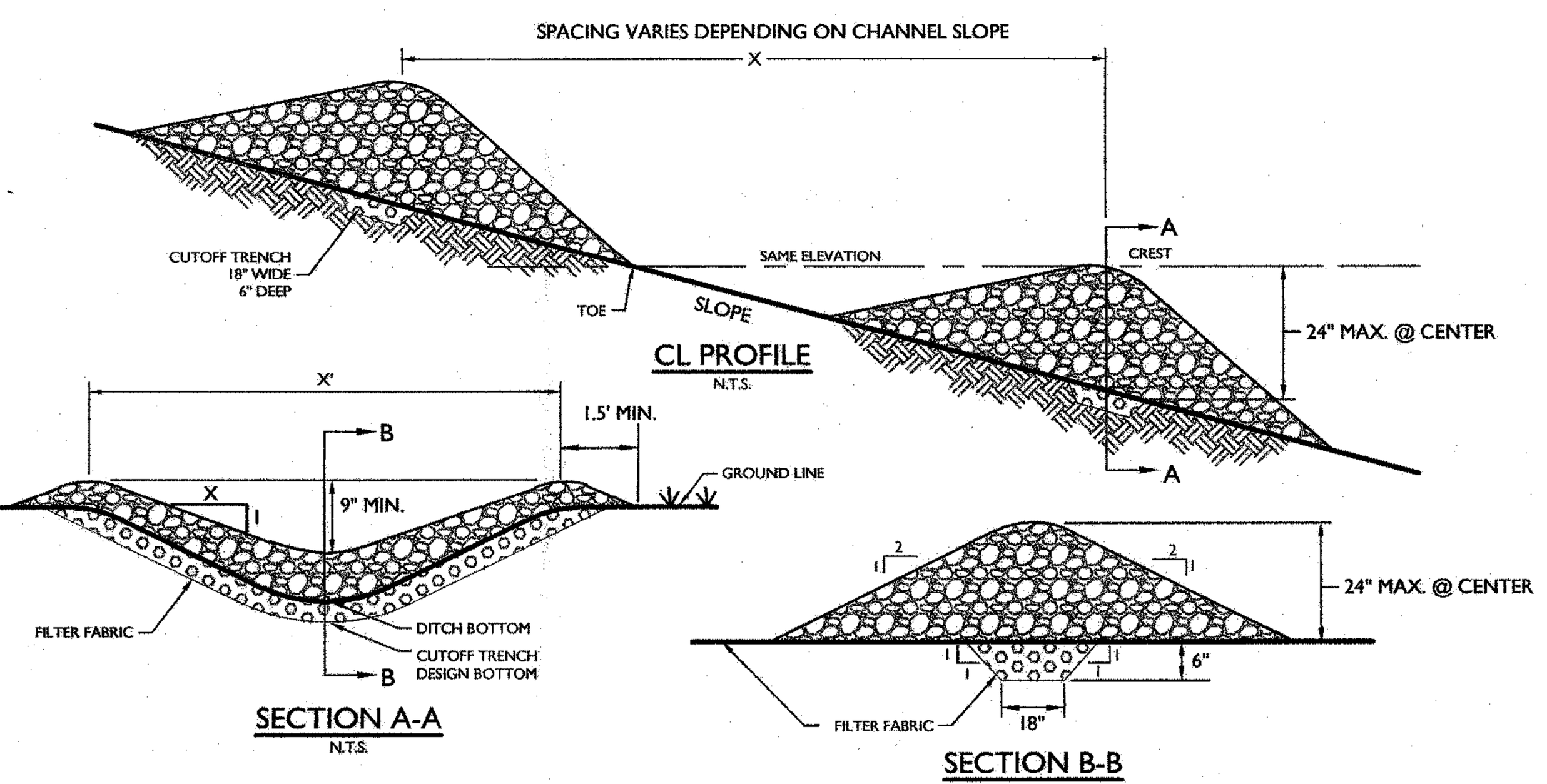
FENCE: WOVEN WIRE 14 1/2 GA. 6" MAX. MESH OPENING.

FILTER CLOTH: FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUAL.

PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL.

WIRE REINFORCED SILT FENCE

N.T.S.



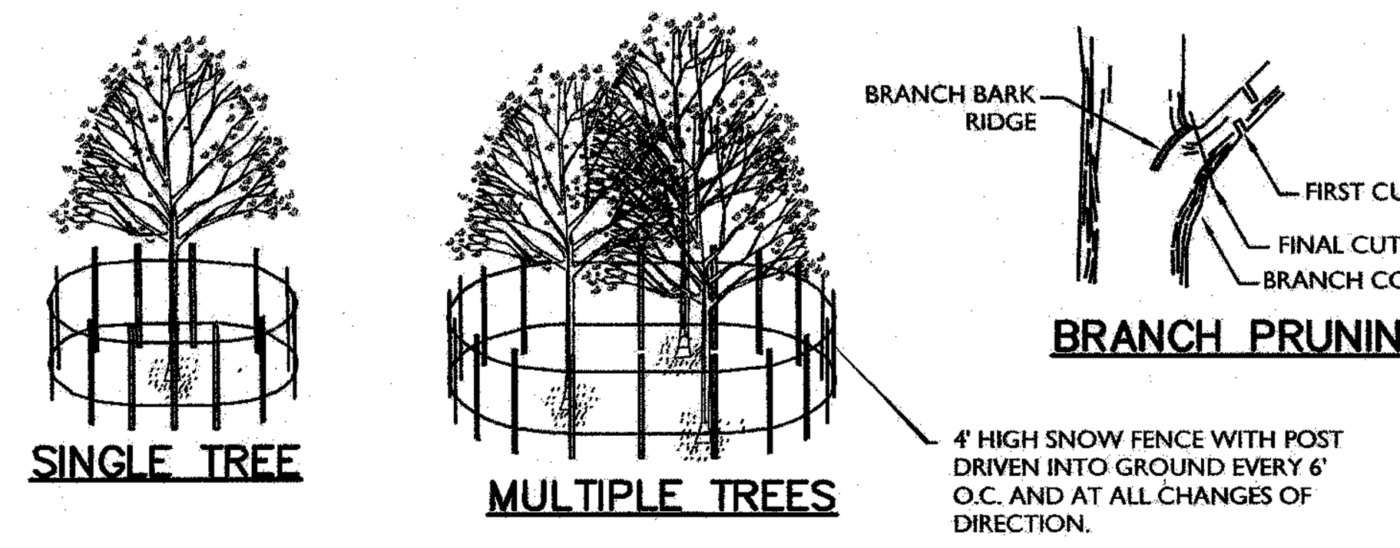
CONSTRUCTION SPECIFICATIONS

1. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION TO THE LINES, GRADES AND LOCATIONS SHOWN ON THE PLAN.
2. SET SPACING OF CHECK DAMS TO ASSUME THAT THE ELEVATIONS OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION OF THE TOE OF THE UPSTREAM DAM.
3. EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
4. PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
5. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.

MAXIMUM DRAINAGE AREA: 2 ACRES

STONE CHECK DAM

N.T.S.



NOTES:

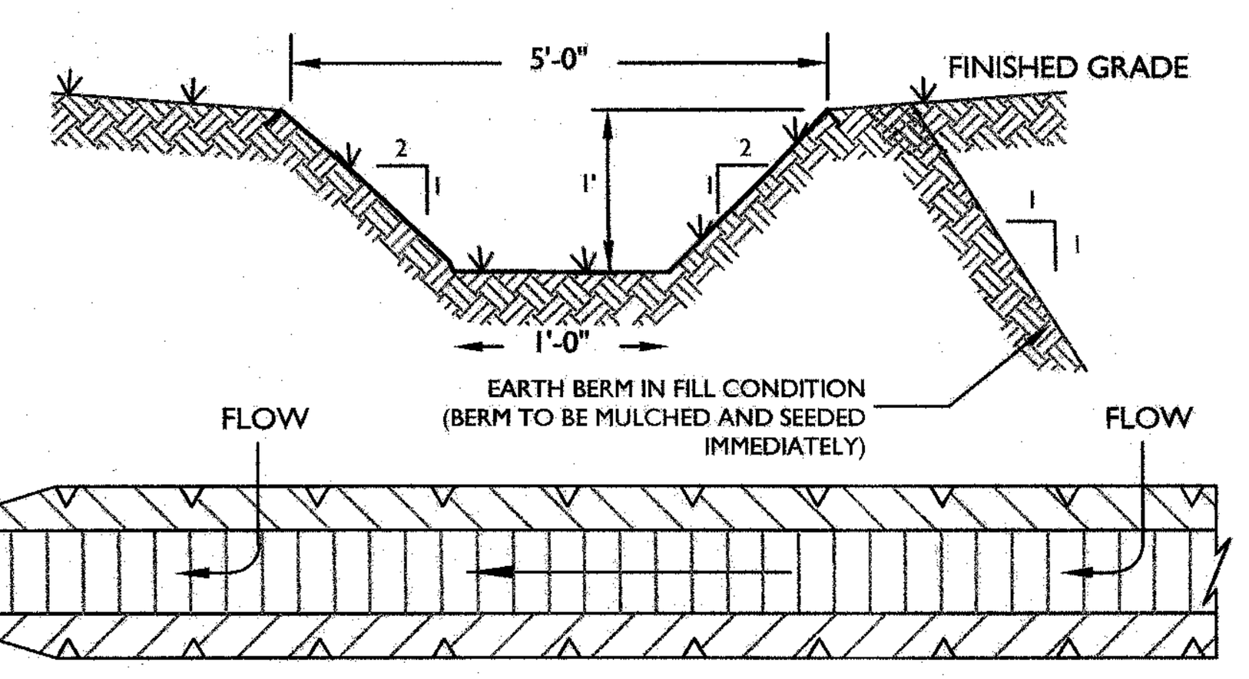
1. PROTECTIVE FENCING IS TO BE ERECTED PRIOR
2. NO CONSTRUCTION ACTIVITY IS PERMITTED WITHIN WITH TOPSOIL IMMEDIATELY AFTER EXCAVATION IS COMPLETE. THE PROTECTIVE FENCING. ROOTS SHALL BE PRUNED TO GIVE A CLEAN, SHARP SURFACE AMENABLE TO HEALING. ROOTS EXPOSED DURING HOT WEATHER
3. AS CONSTRUCTION NEARS COMPLETION THE FENCING SHOULD BE IRRIGATED TO PREVENT PERMANENT TREE INJURY. WILL BE REMOVED AS DIRECTED. CARE FOR SERIOUS INJURY SHOULD BE PRESCRIBED BY A
4. AT THE COMPLETION OF CONSTRUCTION ALL TREES PROFESSIONAL FORESTER OR CERTIFIED TREE EXPERT. WILL BE PRUNED AS NECESSARY TO CORRECT ANY
5. GENERAL MECHANICAL DAMAGE - SEE DETAIL ABOVE COLLAR. THERE SHOULD BE NO FLUSH CUTS. FLUSH CUTS FOR CORRECT PLACEMENT OF TREE PROTECTION. DESTROY A MAJOR DEFENSE SYSTEM OF THE TREE. NO TREE PAINT SHALL BE APPLIED. ALL CUTS SHALL BE MADE AT
6. BOX TREES WITHIN 25 FEET OF A BUILDING SITE TO THE OUTSIDE EDGE OF THE BRANCH COLLAR. CUTS MADE TOO PREVENT MECHANICAL INJURY. FENCING OR OTHER FAR BEYOND THE BRANCH COLLAR MAY LEAD TO EXCESS BARRIER SHOULD BE INSTALLED AT THE DRIP LINE SPROUTING, CRACKS AND ROT. REMOVAL OF A "V" CROTCH OF THE TREE BRANCHES. SHOULD BE CONSIDERED FOR FREE STANDING SPECIMEN TREES TO AVOID FUTURE SPLITTING DAMAGE.
7. BOARDS WILL NOT BE NAILED TO TREES DURING BUILDING OPERATIONS.
8. FEEDER ROOTS SHOULD NOT BE CUT IN AN AREA TO CONSTRUCTION AND MAINTAINED DURING INSIDE THE DRIP LINE OF THE TREE BRANCHES. CONSTRUCTION AS DIRECTED BY THE LANDSCAPE ARCHITECT, SOIL CONSERVATION DISTRICT AND/OR
9. DAMAGED TRUNKS OR EXPOSED ROOTS SHOULD HAVE MUNICIPAL ENGINEER. DAMAGED BARK REMOVED IMMEDIATELY AND NO PAINT SHALL BE APPLIED. EXPOSED ROOTS SHOULD BE COVERED
10. TREE LIMB REMOVAL WHERE NECESSARY, WILL BE DONE AS DAMAGE RESULTING FROM CONSTRUCTION ACTIVITY. NATURAL TARGET PRUNING TO REMOVE THE DESIRED BRANCH

TEMPORARY TREE PROTECTION DETAIL

N.T.S.

TREE PROTECTION NOTES:

1. TREE PROTECTION FENCING TO BE INSTALLED ALONG THE DISTURBANCE LIMIT LINE WHEREVER EROSION CONTROL FENCING IS NOT PROPOSED.
2. THERE SHALL BE NO STORAGE OF EQUIPMENT OR MATERIALS OUTSIDE CLEARING LIMITS. NO EQUIPMENT IS PERMITTED OUTSIDE CLEARING LIMITS.
3. THE FENCING SHOULD REMAIN IN GOOD CONDITION FOR THE DURATION OF THE CONSTRUCTION PERIOD.



0.5% OR GREATER, DEPENDENT ON TOPOGRAPHY

PLAN

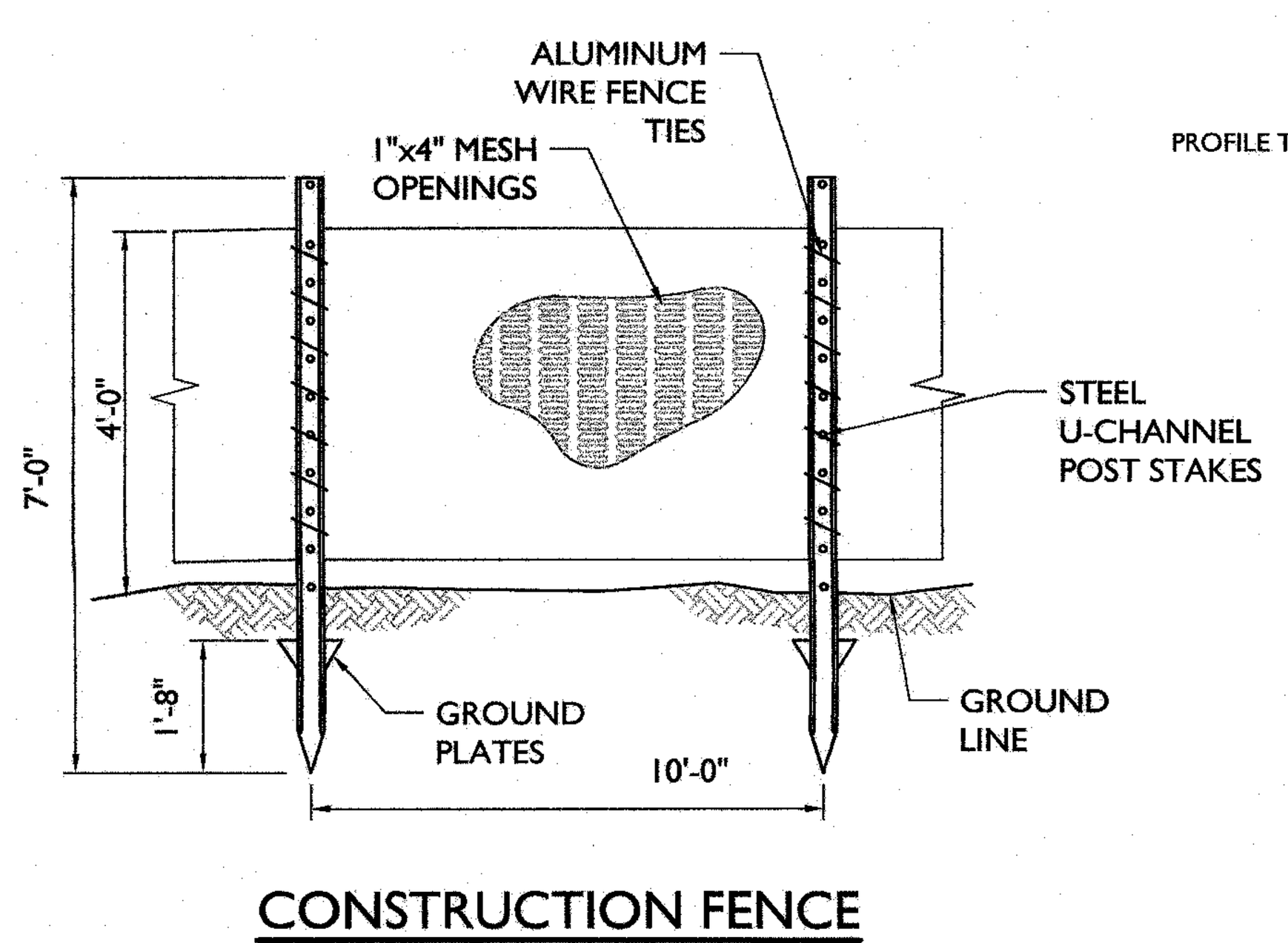
TO BE INSTALLED ABOVE DISTURBED AREAS, TO DIVERT RUNOFF OFF-SITE WITHOUT INCREASING EROSION; INTERMITTENTLY ACROSS DISTURBED AREAS, TO SHORTEN OVERLAND FLOW DISTANCES; BELOW DISTURBED AREAS, TO DIVERT SEDIMENT-LADEN WATER TO A SEDIMENT TRAPPING DEVICE; AND TO SAFELY TRANSPORT RUNOFF ALONG ROADWAYS.

* WHERE SWALE TRAVERSES CONSTRUCTION VEHICLE PATH, DEPTH TO BE 6". SEE PLAN FOR LOCATION

INSTALLATION NOTES

1. ALL SWALES SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET.
2. DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
3. DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL OUTLET DIRECTLY INTO AN UNDISTURBED STABILIZED AREA AT NON-EROSIVE VELOCITY.
4. ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE PROPER FUNCTIONING OF THE SWALE.
5. THE SWALE SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED HEREIN AND BE FREE OF BANK PROJECTIONS OR OTHER IRREGULARITIES WHICH WILL IMPEDE NORMAL FLOW.
6. FILLS SHALL BE COMPACTED BY EARTH MOVING EQUIPMENT.
7. ALL EARTH REMOVED AND NOT NEEDED FOR CONSTRUCTION SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE FUNCTIONING OF THE SWALE.
8. INSPECTION AND MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.
9. STABILIZATION SHALL BE SEED AND STRAW MULCH.

TEMPORARY SWALE (& EARTH BERM IN FILL CONDITION)



CONSTRUCTION FENCE

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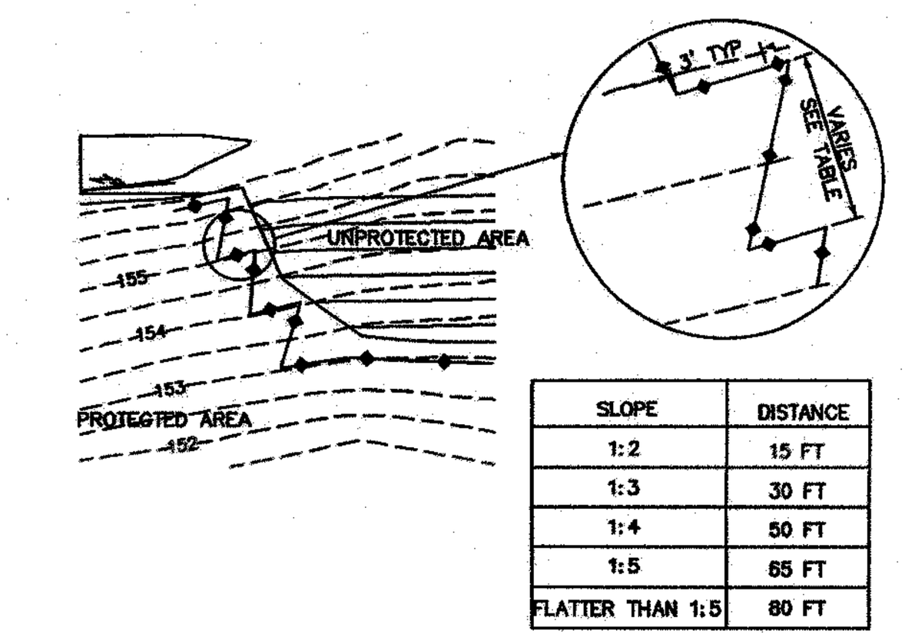
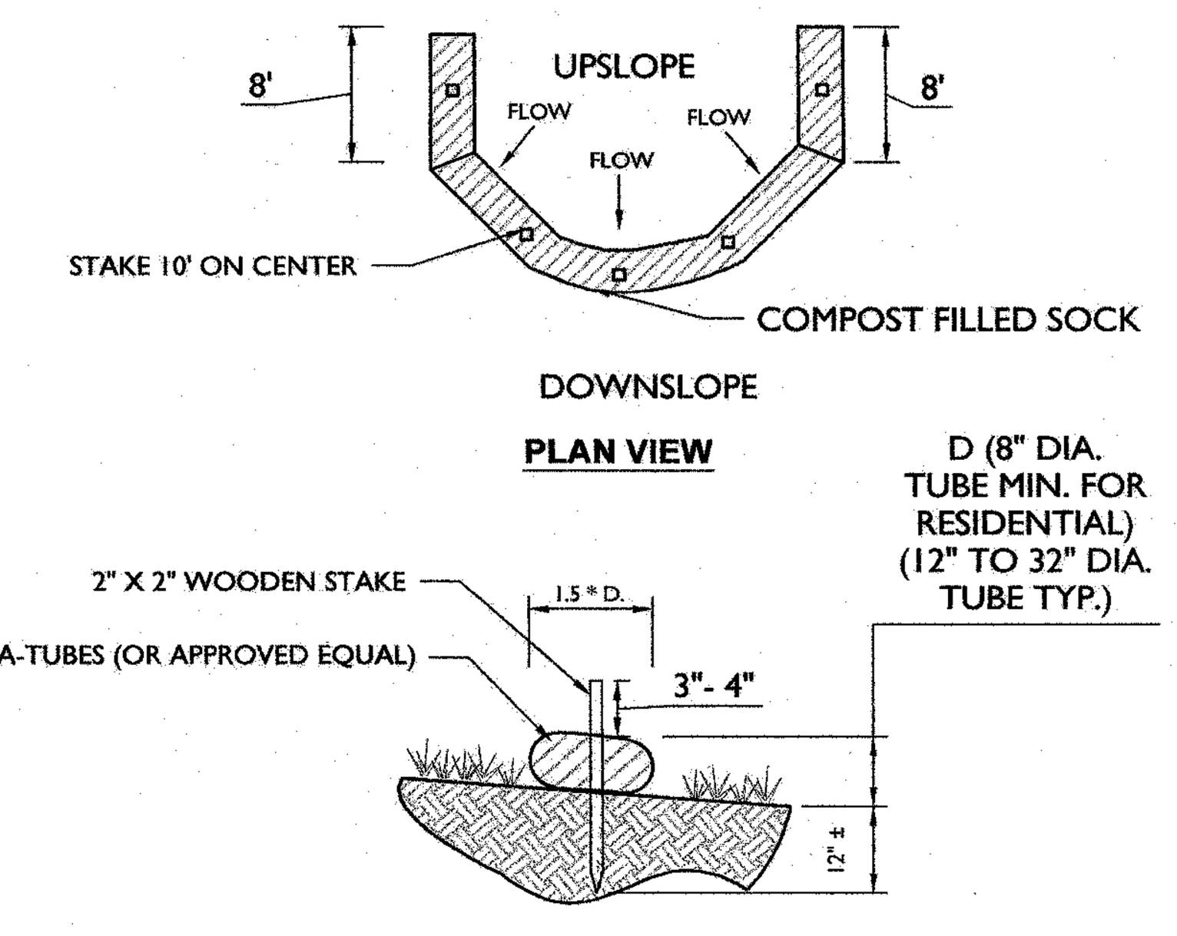


SLOPE	DISTANCE
1:2	15 FT
1:3	30 FT
1:4	50 FT
1:5	65 FT
FLATTER THAN 1:5	80 FT

SILT FENCE INSTALLATION

(WHEN NOT PARALLEL TO CONTOURS)

N.T.S.



DIA. (in.)	SLOPE%						
	2	5	10	20	25	33	50
12	250*	225	125	65	50	40	25
18	275	250	150	70	55	45	30
24	350	275	200	130	100	60	35
32	450	325	275	150	120	75	50

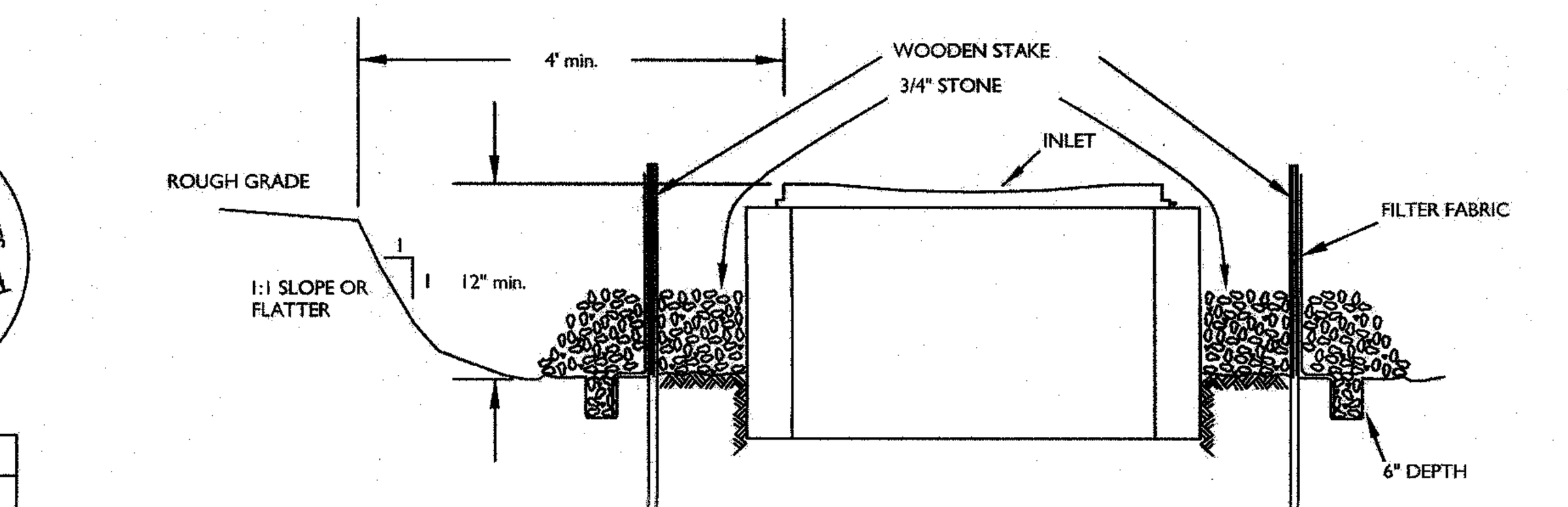
*Length in feet.

NOTES:

1. ALL MATERIAL TO MEET THE LATEST NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL SPECIFICATIONS.
2. COMPOST/SOIL/ROCK/SEED FILL TO MEET APPLICATION REQUIREMENTS.
3. FILTER SOCK AND COMPOST MATERIAL TO BE DISPOSED OF BY CONTRACTOR AFTER USE.

COMPOSITE FILTER SOCK DETAIL

N.T.S.

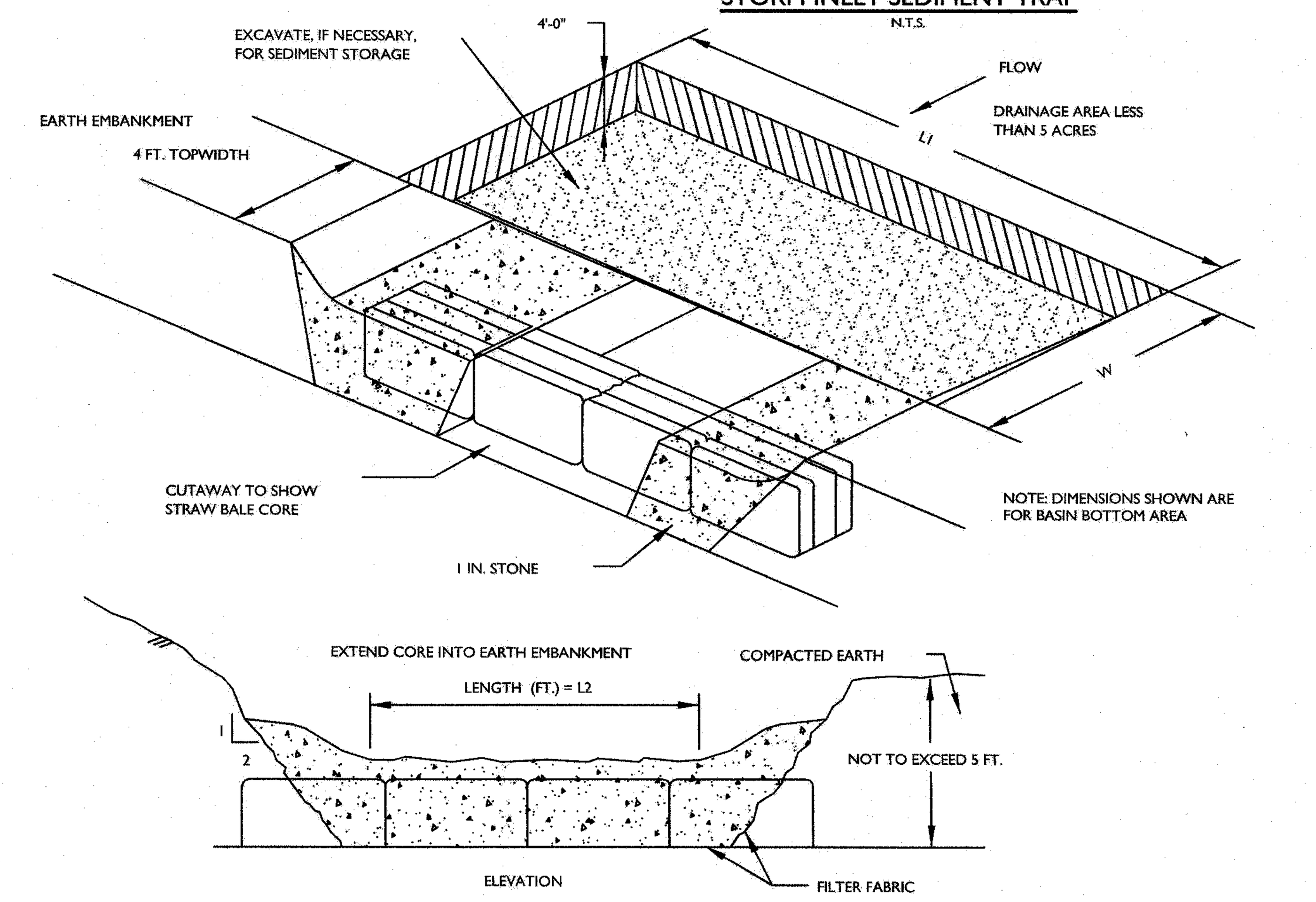


INSTALLATION NOTES

1. EXCAVATE A 6 INCH x 6 INCH TRENCH, OFFSET APPROXIMATELY 2 FEET FROM THE INLET PERIMETER.
2. UNROLL A SECTION AT A TIME AND POSITION THE POSTS AGAINST THE BACK (DOWNSTREAM) WALL OF THE TRENCH (NET SIDE AWAY FROM DIRECTION OF FLOW).
3. DRIVE THE POST INTO THE GROUND UNTIL THE NETTING IS APPROXIMATELY 2 INCHES FROM THE TRENCH BOTTOM.
4. LAY THE TOE-IN FLAP OF FABRIC ONTO THE UNDISTURBED BOTTOM OF THE TRENCH, BACKFILL THE TRENCH AND TAMP THE SOIL. STEEPER SLOPES REQUIRE AN INTERCEPT TRENCH.
5. JOIN SECTIONS AS SHOWN ABOVE. SUPPLEMENT WITH GRAVEL, PILED AGAINST THE FENCE.
6. SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP.
7. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.

STORM INLET SEDIMENT TRAP

N.T.S.



TO BE INSTALLED PRIOR TO GRADING OR FILLING IN THE DRAINAGE AREA THEY ARE TO PROTECT. TRAPS THAT ARE TO FUNCTION DURING BUILDING CONSTRUCTION MUST NOT BE LOCATED WITHIN 20 FEET OF A PROPOSED BUILDING FOUNDATION. WHILE TRAPS SHOULD BE SITED TO MAXIMIZE STORAGE BENEFIT, THEY SHOULD NOT BE LOCATED WETLAND OR WETLAND BUFFER AREAS, OR IN EXISTING WATERCOURSES.

SEE EROSION AND SEDIMENT CONTROL PLAN FOR LOCATIONS.

INSTALLATION NOTES

NOTES:

1. AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED, AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED AS WELL.
2. THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROOTS OR OTHER WOODY VEGETATION AS WELL AS OVER SIZED STONES, ROCKS, ORGANIC MATERIAL AND OTHER QUESTIONABLE MATERIAL. THE EMBANKMENT SHALL BE COMPACTED BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
3. SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
4. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
5. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION IS MINIMIZED.
6. THE STRUCTURE SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
7. ALL CUT AND FILL SLOPES SHALL BE 1 : 2 OR FLATTER.
8. THE STONE USED IN THE OUTLET SHALL BE SMALL RIPRAP 4"-8" ALONG WITH A 1' THICKNESS OF 2" AGGREGATE PLACED ON THE UP GRADE SIDE ON THE SMALL RIPRAP OR EMBEDDED FILTER CLOTH IN THE RIPRAP.

SIZING CALCULATIONS

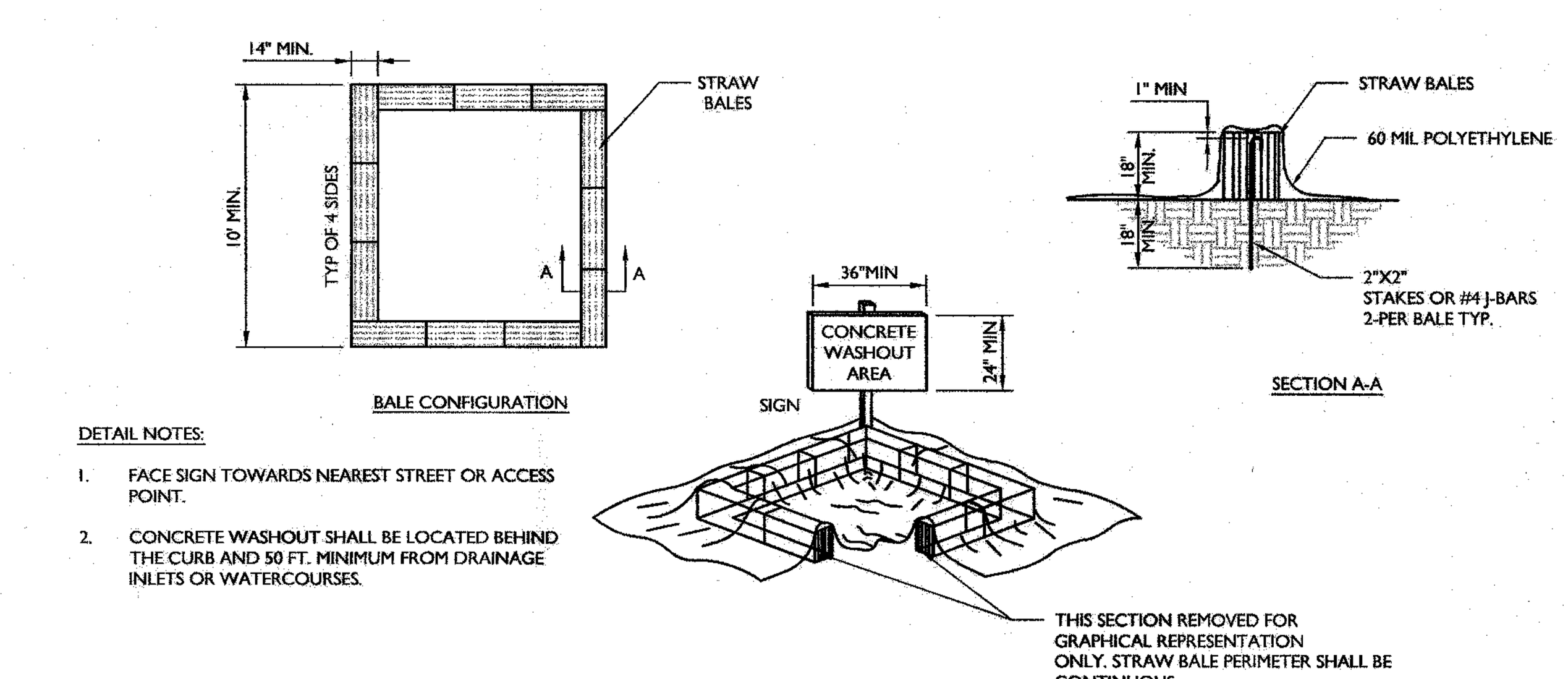
NOTE:

1. 3,600 CUBIC FEET OF STORAGE REQUIRED PER ACRE OF DISTURBANCE.

*THIS IS THE MINIMUM AMOUNT OF SEDIMENT TRAPS, ADDITIONAL MAY BE REQUIRED BASED UPON OTHER ON-SITE CONDITIONS AND CONTRACTOR SCHEDULE AND PHASING ACTIVITIES.

STONE OUTLET SEDIMENT TRAP TABLE

SEDIMENT TRAP	DRAINAGE AREA	AREA (L1 X W)	DEPTH (FT.)	VOLUME REQ'D (C.F.)	VOLUME PROVIDED (C.F.)
A	±6.3 ACRES	170' X 70"	2.0 FT.	22,680 C.F.	23,800 C.F.
B	±4.0 ACRES	200' X 30'	2.5 FT.	14,400 C.F.	15,000 C.F.



DETAIL NOTES:

1. FACE SIGN TOWARDS NEAREST STREET OR ACCESS POINT.
2. CONCRETE WASHOUT SHALL BE LOCATED BEHIND THE CURB AND 50 FT. MINIMUM FROM DRAINAGE INLETS OR WATERCOURSES.

NOTES:

1. CONCRETE WASHOUTS ARE REQUIRED ON ALL CONSTRUCTION SITES INVOLVING CONCRETE AND STUCCO USE.
2. THE CONTRACTOR SHALL REQUIRE ALL CONCRETE DRIVERS TO UTILIZE THE CONCRETE WASHOUTS ONSITE.
3. WASHOUT FACILITIES SHALL BE LOCATED AT LEAST 50 FEET AWAY FROM STORM SEWER DRAIN INLETS, GUTTERS, OPEN DITCHES, AND WATER COURSES.
4. APPROPRIATE STONE SHOULD COVER PATHS TO CONCRETE WASHOUT.
5. THE NUMBER OF CONCRETE WASHOUTS DEPENDS ON THE EXPECTED DEMAND FOR STORAGE CAPACITY. LARGE SITES WITH EXTENSIVE CONCRETE WORK SHALL BE PLACED AT MULTIPLE LOCATIONS FOR USE BY CONCRETE TRUCK DRIVERS.
6. CONCRETE WASHOUT AREAS SHALL BE IDENTIFIED BY POSTING SIGNS ONSITE.
7. CONCRETE WASHOUTS ARE TO BE INSPECTED DAILY BY THE CONTRACTOR FOR LEAKS OR TEARS IN PLASTIC LINER.
8. REMOVE AND DISPOSE OF ALL MATERIAL WHEN THE WASHOUT HAS BEEN FILLED TO 75% CAPACITY.
9. PRIOR TO ANY RAINFALL, ALL CONCRETE WASHOUTS ARE TO BE CLEANED OUT OR COVERED.
10. ONCE THE MATERIAL HAS BEEN CLEANED OUT OF THE CONCRETE WASHOUT FACILITY, THE FACILITY MUST BE INSPECTED FOR REPAIR, RECONSTRUCTION OR REPLACEMENT. ALL PLASTIC LINING SHALL BE REMOVED AND REPLACED.
11. PRE-FABRICATED OR ONSITE FABRICATED CONCRETE WASHOUTS MAY BE USED.
12. OPTIONS FOR ONSITE CONCRETE WASHOUTS:
    A. DIG A PIT AND LINE WITH 10 MIL PLASTIC SHEETING.
    B. CREATE AN ABOVE-GROUND STRUCTURE FROM STRAW BALES OR SANDBAGS WITH 10 MIL PLASTIC LINING.

CONCRETE WASHOUT DETAIL

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1	06/13/19	CDR	REVISED PER COMMENTS AND SWPPP DESIGN
2	07/11/19	CDR	REVISED PER PLANNING BOARD COMMENTS & OCDOH SUBMISSION

ANDREW B. FETHERSTON
NEW YORK LICENSED PROFESSIONAL ENGINEER - LICENSE NUMBER: 073555-1

BJ's WHOLESALE CLUB

FOR

GDPBJ, LLC

SECTION 97
BLOCK 2
LOTS 27.32, 44, 45 & 46.2

TOWN OF NEWBURGH
ORANGE COUNTY
NEW YORK STATE

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555 Hudson Valley Avenue
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New Windsor, NY 12553
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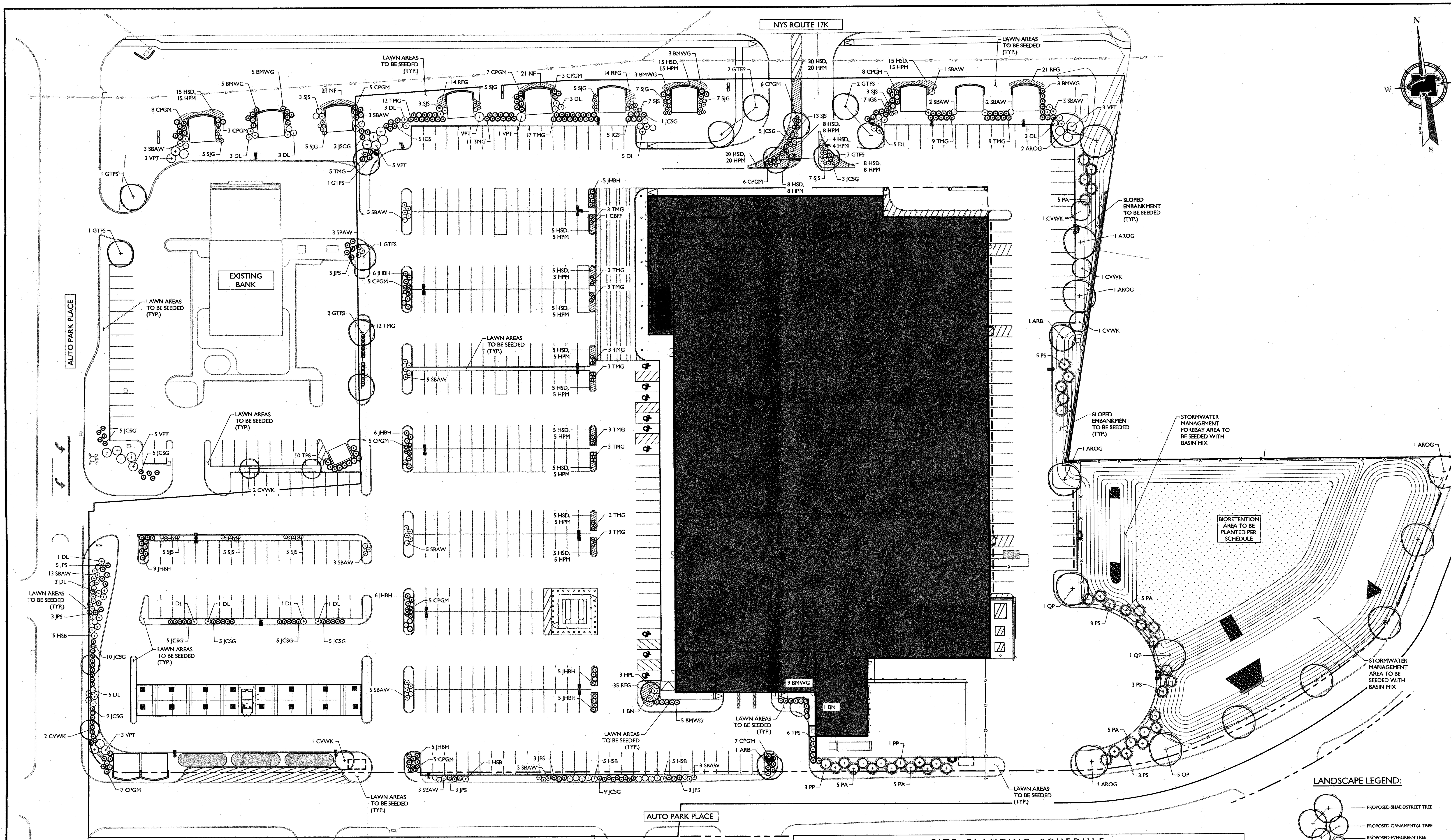
Fax: 845.567.1025

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	05/24/19	CDR	ABF

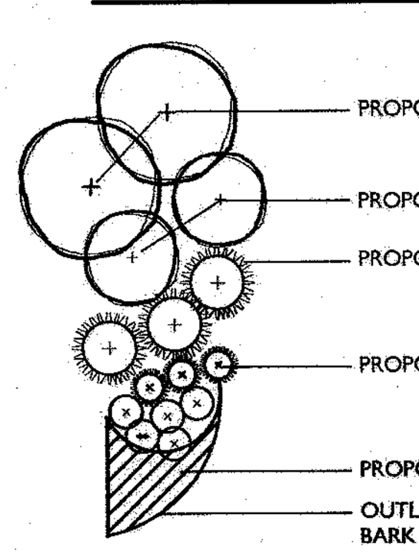
PROJECT NUMBER: 18000471A
DRAWING NAME: C-SESC

SHEET TITLE:

SOIL EROSION & SEDIMENT CONTROL DETAILS



LANDSCAPE LEGEND:



BIORETENTION AREA PLANT SCHEDULE

KEY	QTY.	BOTANICAL NAME	COMMON NAME	HEIGHT	CALIPER	SPREAD	ROOT	REMARKS
TREES								
AN	10	ACER NEGUNDO	BOX ELDER		1-1/4" - 1-1/2"		CONT.	TYPICAL SPECIES HABIT
BN	7	BETULA NIGRA	RIVER BIRCH	6' - 8'			CONT.	MULTI-STEM
NS	3	NYSSA SYLVATICA	SOUR GUM		1-1/4" - 1-1/2"		CONT.	TYPICAL SPECIES HABIT
SHRUBS								
AA	9	ARONIA ARBUTIFOLIA	RED CHOKEBERRY	24"-30"			CONT.	TYPICAL SPECIES HABIT
AL	7	AMELANCHIER LEAVIS	SERVICEBERRY	6' - 8'			CONT.	TYPICAL SPECIES HABIT
CA	15	CLETHRA ALNIFOLIA 'HUMMINGBIRD'	SUMMERSWEET	18"-24"			CONT.	TYPICAL SPECIES HABIT
CM	18	CORNUS AMOMUM	SILKY DOGWOOD	30"-36"			CONT.	TYPICAL SPECIES HABIT
IG	27	ILEX GLABRA	INKBERRY	18"-24"			CONT.	TYPICAL SPECIES HABIT
IV	9	ILEX VERTICILLATA	WINTERBERRY	18"-24"			CONT.	TYPICAL SPECIES HABIT
LB	15	LINDERA BENZION	SPICEBUSH	18"-24"			CONT.	TYPICAL SPECIES HABIT
SC	9	SAMBUCUS CANADENSIS	ELDERBERRY	18"-24"			CONT.	TYPICAL SPECIES HABIT
VD	38	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	18"-24"			CONT.	TYPICAL SPECIES HABIT
PERENNIALS								
ANA	65	ASTER NOVAE ANGLIAE	NEW ENGLAND ASTER				1 GAL. CONT.	CLUMPS, 36" O.C.
DC	600	DESCHAMPSIA CESPITOSA	TUFTED HAIR GRASS				#SP4 CONT.	CLUMPS, 30" O.C.
EF	45	EUPATORIUM FISTULOSUM	JOE PYE WEED				1 GAL. CONT.	CLUMPS, 36" O.C.
EP	125	ECHINACEA PURPUREA	CONEFLOWER				1 GAL. CONT.	CLUMPS, 36" O.C.
JE	500	JUNCUS EFFUSUS	COMMON RUSH				#SP4 CONT.	CLUMPS, 24" O.C.

SITE PLANTING SCHEDULE

KEY	QTY.	BOTANICAL NAME	COMMON NAME	HEIGHT	CALIPER	SPREAD	ROOT	REMARKS
SHADE/STREET TREES								
AROG	7	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE		2" - 2-1/2"		B & B	STRAIGHT LEADER/SYM. BRANCHING
ARB	2	ACER RUBRUM 'BRANDYWINE'	BRANDYWINE RED MAPLE		2" - 2-1/2"		B & B	STRAIGHT LEADER/SYM. BRANCHING
GTFS	13	GLEDITSIA TRIACANTHOS F. INERMIS 'SKYLINE'	SKYLINE HONEY LOCUST		2" - 2-1/2"		B & B	STRAIGHT LEADER/SYM. BRANCHING
QP	7	QUERCUS PALUSTRIS	PIN OAK		2" - 2-1/2"		B & B	STRAIGHT LEADER/SYM. BRANCHING
EVERGREEN TREES								
PA	25	PICEA ABIES	NORWAY SPRUCE	6' - 7'			B & B	STRAIGHT LEADER/TYP. SPECIES HABIT
PP	4	PICEA PUNGENS	COLORADO SPRUCE	6' - 7'			B & B	STRAIGHT LEADER/TYP. SPECIES HABIT
PS	14	PINUS STROBUS	EASTERN WHITE PINE	8' - 10'			B & B	STRAIGHT LEADER/TYP. SPECIES HABIT
TPS	16	THUJA PLICATA 'STEEPLECHASE'	STEEPLECHASE WESTERN ARBORVITAE	6' - 7'			B & B	STRAIGHT LEADER/TYP. SPECIES HABIT
ORNAMENTAL TREES								
BN	2	BETULA NIGRA	RIVER BIRCH		8' - 10'		CONT.	MULTI-STEM
CVWK	8	CRATAEGUS VIRIDIS 'WINTER KING'	WINTER KING HAWTHORN		1-3/4" - 2"		B & B	STRAIGHT LEADER/TYP. SPECIES HABIT
SHRUBS								
BMWG	38	BUXUS MICROPHYLLA 'WINTER GEM'	WINTER GEM BOXWOOD	24"-30"			CONT.	TYPICAL SPECIES HABIT
CPGM	80	CHAMAECYPARIS PISIFERA 'GOLDEN MOP'	GOLDEN MOP THREADLEAF CYPRESS				#2 CONT.	TYPICAL SPECIES HABIT
DL	38	DIERVILLA LONICERA	DWARF BUSH HONEYSUCKLE	24"-30"			CONT.	TYPICAL SPECIES HABIT
HSB	16	HYDRANGEA SERRATA 'BLUE BIRD'	BLUE BIRD HYDRANGEA	24"-30"			CONT.	TYPICAL SPECIES HABIT
IGS	17	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERRY	24"-30"			CONT.	TYPICAL SPECIES HABIT
JCSG	70	JUNIPERUS CHINENSIS 'SEA GREEN'	SEA GREEN JUNIPER	24"-30"			CONT.	TYPICAL SPECIES HABIT
JHBH	47	JUNIPERUS HORIZONTALIS 'BAR HARBOR'	BAR HARBOR JUNIPER			24"-30"	CONT.	TYPICAL SPECIES HABIT
JPS	22	JUNIPERUS X PFITZERIANA 'SAYBROOK GOLD'	SAYBROOK GOLD JUNIPER	24"-30"			CONT.	TYPICAL SPECIES HABIT
SBAW	62	SPIRAEA X BUMALDA 'ANTHONY WATERER'	ANTHONY WATERER SPIREA	18"-24"			CONT.	TYPICAL SPECIES HABIT
SJG	36	SPIRAEA JAPONICA 'GOLD MOUND'	GOLD MOUND SPIREA	18"-24"			CONT.	TYPICAL SPECIES HABIT
SJS	51	SPIRAEA JAPONICA 'SHIROBANA'	SHIROBANA SPIREA	18"-24"			CONT.	TYPICAL SPECIES HABIT
TMG	93	TAXUS X MEDIA 'GREENWAVE'	GREENWAVE YEW	18"-24"			CONT.	TYPICAL SPECIES HABIT
VPT	21	VIBURNUM PLICATUM TOMENTOSUM 'SHASTA'	SHASTA DOUBLEFILE VIBURNUM	30"-36"			CONT.	TYPICAL SPECIES HABIT
PERENNIALS								
HPM	158	HEMEROCALLIS 'PARDON ME'	PARDON ME DAYLILY				1 GAL. CONT.	CLUMPS @ 24" O.C.
HSD	158	HEMEROCALLIS 'STELLA DE ORO'	STELLA DE ORO DAYLILY				1 GAL. CONT.	CLUMPS @ 24" O.C.
RFG	70	RUDBECKIA FULGIDA 'GOLDSTRUM'	BLACK-EYED SUSAN				1 GAL. CONT.	CLUMPS @ 24" O.C.
NF	42	NEPETA FAASSENII	CATMINT				1 GAL. CONT.	CLUMPS @ 24" O.C.

PLAN NOTE:

1. THIS PLAN IS TO BE USED FOR LANDSCAPE PURPOSES ONLY.

LANDSCAPE NOTES:

1. LOCATIONS OF ALL PLANT MATERIAL AND PLANTING BED OUTLINES IS APPROXIMATE AND MAY VARY DUE TO THE LOCATIONS OF SITE IMPROVEMENTS AND/OR BUILDINGS.
2. FINAL LOCATION OF ALL PLANT MATERIAL AND PLANTING BED OUTLINES SHALL BE DETERMINED IN THE FIELD UNDER THE DIRECTION OF THE PROJECT LANDSCAPE ARCHITECT.
3. ALL AREAS WITHIN THE PLANTING BED LIMITS SHALL BE MULCHED WITH 3" OF SHREDDED HARDWOOD BARK MULCH.
4. LAWN AREAS ON-SITE SHALL BE STABILIZED WITH SEED.
5. ALL PLANT MATERIAL SHALL CONFORM TO GUIDELINES AS SET FORTH IN THE LATEST EDITION OF THE AMERICAN ASSOCIATION OF NURSERYMEN'S STANDARD FOR NURSERY STOCK.
6. NO SUBSTITUTIONS OF PLANT MATERIALS SHALL BE MADE WITHOUT WRITTEN CONSENT FROM THE PROJECT LANDSCAPE ARCHITECT OR THE TOWN OF NEWBURGH LANDSCAPE CONSULTANT.
7. ALL LANDSCAPING SHALL CONTINUE TO BE MAINTAINED IN A HEALTHY GROWING CONDITION THROUGHOUT THE DURATION OF THE STRUCTURE OR USE WHICH IT IS INTENDED TO SERVE.

30 0 30 60

SCALE : 1" = 30'

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SECTION 97
BLOCK 2
LOTS 27.32, 44, 45 & 46.2

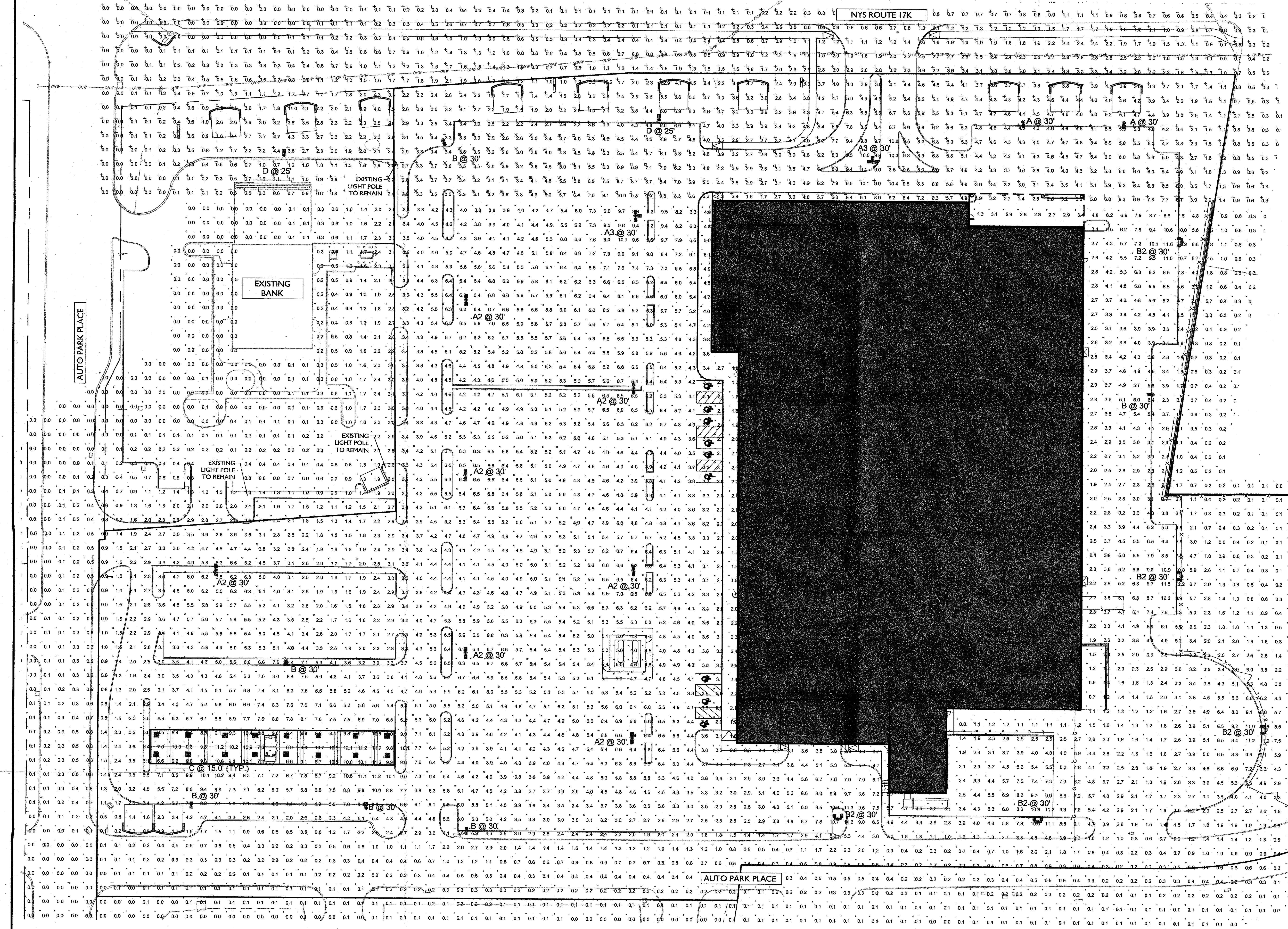
TOWN OF NEWBURGH
ORANGE COUNTY
NEW YORK STATE

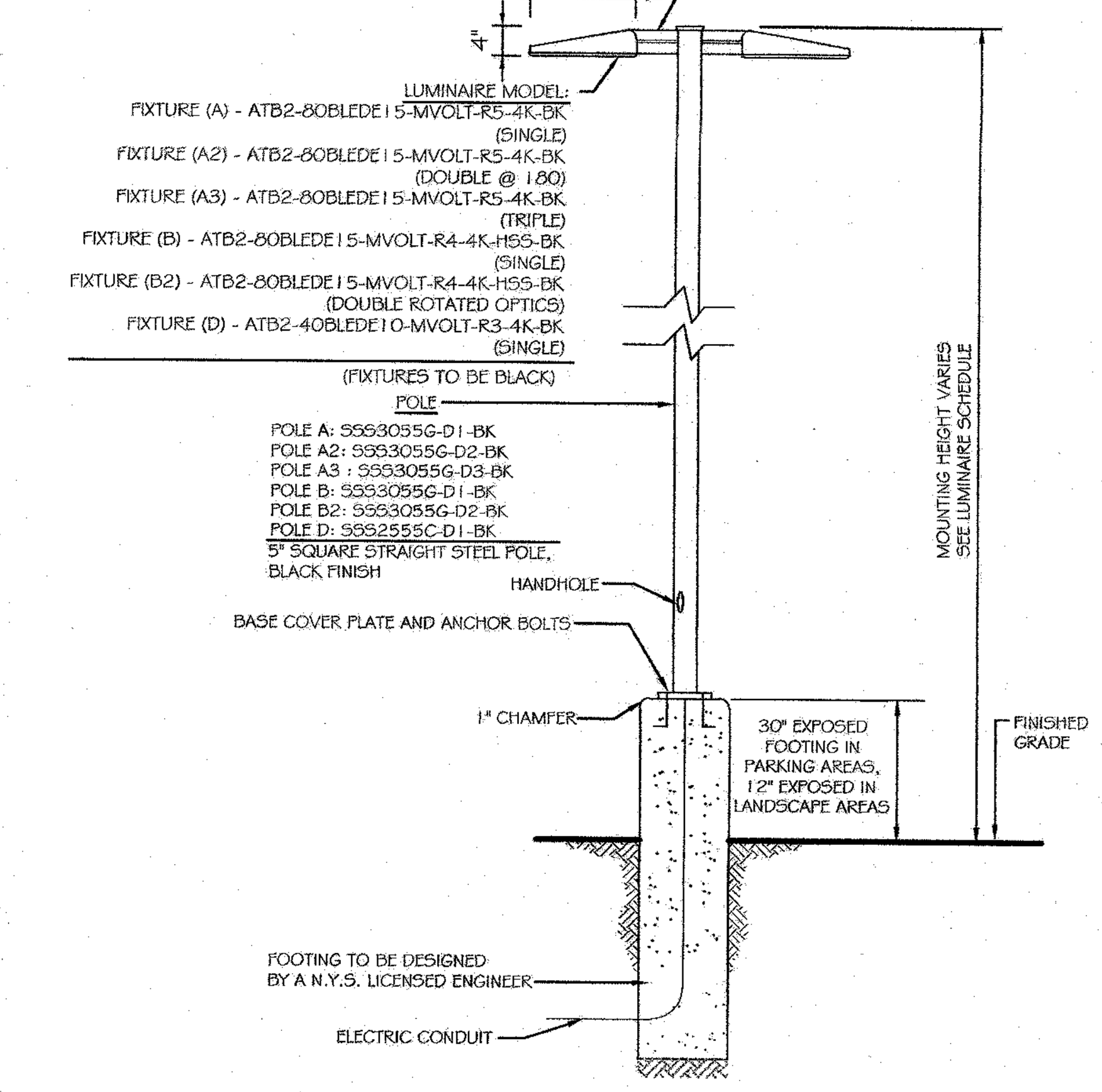
NEW WINDSOR OFFICE
555 Hudson Valley Avenue
Suite 101
New Windsor, NY 12553
Phone: 845.564.4495
Fax: 845.567.1025

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	05/24/19	CPM	JED

PROJECT NUMBER:	DRAWING NAME:
18000471A	C-LAND

SHEET TITLE: LANDSCAPE PLAN



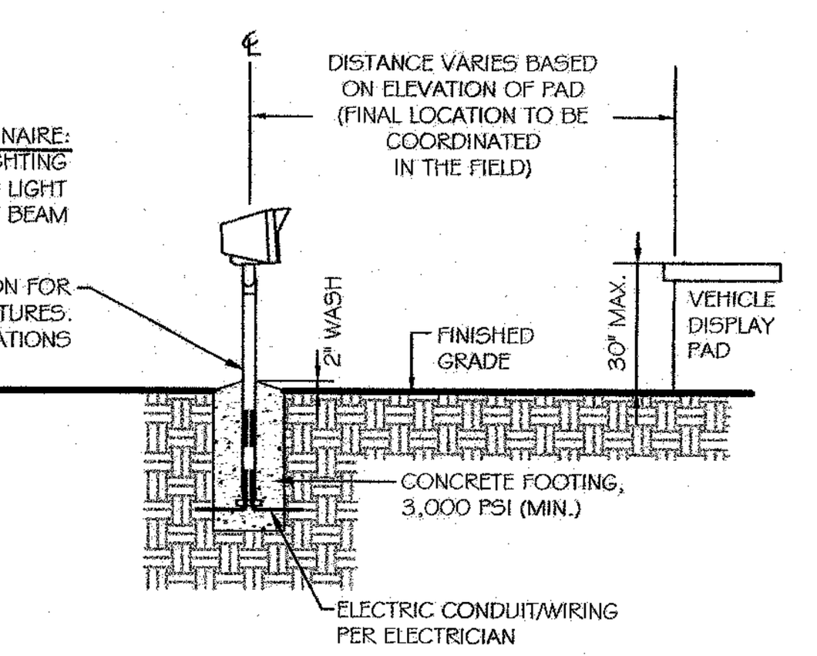


POLE MOUNTED FIXTURE DETAIL

NOT TO SCALE

NOTES:

1. LUMINAIRES AND POLE TO BE MANUFACTURED BY AMERICAN ELECTRIC LIGHTING AND POLES BY HOLOPHANE (MANUFACTURER TO CONFIRM POLE SIZE).
2. CONTRACTOR TO PROVIDE SHOP DRAWINGS OF LIGHT FIXTURES FOR REVIEW AND APPROVAL BY THE OWNER OR PROJECT LANDSCAPE ARCHITECT.
3. POLE SIZING TO BE CONFIRMED WITH MANUFACTURER.
4. FOOTING TO BE DESIGNED, SIGNED, AND SEALED BY A N.Y.S. LICENSED ENGINEER.
5. *VOLTAGE TO BE CONFIRMED BY ELECTRICIAN CONTRACTOR.



NOTE:

1. CONTRACTOR TO MOCK-UP INSTALLATION ON SITE PRIOR TO SECURING ALL FIXTURES FOR INSTALLATION AND WIRING.
2. INSTALL GROUND MOUNTED FIXTURES PER MANUFACTURERS SPECIFICATIONS.

GROUND MOUNTED LIGHT DETAIL

(FOR VEHICLE DISPLAY PADS)

NOT TO SCALE

LUMINAIRE SCHEDULE

KEY	QTY.	DESCRIPTION	ARRANGEMENT	MTG. HT.	LUMENS/LAMP	LLF	CATALOG #
A	3	AMERICAN ELECTRIC LIGHTING - ATB2 SERIES LED	SINGLE	30'	44,744	0.87	ATB2 80BLEDE15 MVOLT R5 4K BK
A2	7	AMERICAN ELECTRIC LIGHTING - ATB2 SERIES LED	DOUBLE	30'	44,744	0.87	ATB2 80BLEDE15 MVOLT R5 4K BK
A3	2	AMERICAN ELECTRIC LIGHTING - ATB2 SERIES LED	TRIPLE	30'	44,744	0.87	ATB2 80BLEDE15 MVOLT R5 4K BK
B	5	AMERICAN ELECTRIC LIGHTING - ATB2 SERIES LED	SINGLE	30'	32,900	0.87	ATB2 80BLEDE15 MVOLT R4 4K BK HSS
B2	5	AMERICAN ELECTRIC LIGHTING - ATB2 SERIES LED	DOUBLE - ROTATED OPTICS	30'	32,900	0.87	ATB2 80BLEDE15 MVOLT R4 4K HS BK HSS
C	16	HOLOPHANE PARKPAK SQUARE - CANOPY LED	SINGLE	15'	5,583	0.93	PPSQL2 P40 40K FC T5M SSM WHSDP
D	2	AMERICAN ELECTRIC LIGHTING - ATB2 SERIES LED	SINGLE	25'	16,248	0.87	ATB2 40BLEDE10 MVOLT R3 4K BK

NOTE:

1. LIGHT FIXTURE VOLTAGE REQUIREMENTS TO BE CONFIRMED BY CONTRACTOR PRIOR TO ORDERING.

CALCULATION SUMMARY

DESCRIPTION	CALC. TYPE	UNITS	AVG.	MAX.	MIN.	AVG. / MIN.
ROUTE 17K ENTRANCE DRIVEWAY AREA	ILLUMINANCE	FC	7.5	10.4	3.9	1.9:1
FUELING AREA	ILLUMINANCE	FC	6.6	12.1	1.3	5.1:1
MEMBER AREA - ADJACENT TO BREEZEWAY	ILLUMINANCE	FC	5.5	10.1	2.4	2.3:1
MEMBER AREA - ADJACENT TO TIRE CENTER	ILLUMINANCE	FC	5.2	11.3	1.4	3.7:1
PARKING AREAS	ILLUMINANCE	FC	4.7	7.9	1.2	3.9:1
RECEIVING AREAS (EASTERN SIDE OF BUILDING)	ILLUMINANCE	FC	4.6	12.2	0.7	6.6:1

LIGHTING NOTES:

1. THIS PLAN IS TO BE USED FOR LIGHTING PURPOSES ONLY.
2. POLES, LUMINAIRES AND FIXTURES AS SUPPLIED BY:
   CANOPY FIXTURES & POLES - HOLOPHANE
   POLE FIXTURES - AMERICAN ELECTRIC LIGHTING
3. LAMPS ARE TO BE LEDs. A LIGHT LOSS FACTOR (LLF) WAS USED AS SHOWN IN THE LUMINARIES SCHEDULE.
4. FIXTURES AND POLES ARE TO BE BLACK. CANOPY FIXTURES TO BE WHITE.
5. POLE FIXTURES TO BE FIT WITH PHOTOCELL TO TURN FIXTURES ON (DUSK) AND FIXTURES TO BE TURNED OFF VIA TIME CLOCK CONTROL (ONE (1) HOUR AFTER CLUB CLOSES). RECEIVING/DELIVERY AREA FIXTURES TO BE TURNED OFF VIA PHOTOCELL (SUNRISE).
6. POLE MOUNTED FIXTURES SHALL BE PLACED A MINIMUM OF TWO (2) FEET BEHIND CURBS OR RETAINING WALLS IN CAR PARKING AREAS.
7. PROPOSED LIGHT FIXTURE LOCATIONS ARE CRITICAL TO PROVIDE THE LIGHTING LEVELS DEPICTED ON THIS PLAN. THE LIGHTING CONTRACTOR SHALL FIELD VERIFY FIXTURE LOCATIONS PRIOR TO INSTALLATION. IF ADJUSTMENT TO ANY LIGHT FIXTURE LOCATION IS REQUIRED DUE TO FINAL CONSTRUCTION OF UTILITIES AND SITE IMPROVEMENTS, THE LIGHTING CONTRACTOR SHALL NOTIFY THE PROJECT LANDSCAPE ARCHITECT OF ANY DISCREPANCIES PRIOR TO INSTALLATION.
8. LIGHTING SHOWN ON PLAN DEPICTS AVERAGE MAINTAINED FOOTCANDLE LEVELS AT GRADE.
9. CONTRACTOR TO PROVIDE SHOP DRAWINGS OF LIGHT FIXTURES FOR REVIEW AND APPROVAL BY THE PROJECT LANDSCAPE ARCHITECT.
10. ELECTRICAL PLANS FOR WIRING LAYOUT BY OTHERS.
11. POLE BASE INSTALLATION SHALL INCLUDE A SUPPLEMENTARY GROUND ROD AND WIRE LEAD TO BASE FOR POWER CONNECTION. DETAILS PER PROJECT ELECTRICAL ENGINEER.

LIGHTING LEGEND:

- TRIPLE FIXTURE POLE LIGHT
- DOUBLE FIXTURE POLE LIGHT (ROTATED OPTICS)
- DOUBLE FIXTURE POLE LIGHT
- SINGLE FIXTURE POLE LIGHT
- CANOPY MOUNTED FIXTURE
- 0.0 LIGHT LEVEL AT GRADE (IN FOOTCANDLES)

30 0 30 60

SCALE : 1" = 30'

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State of N.Y. Certificate of Authorization: 0008671 / 0008821

REV	DATE	DRAWN BY	DESCRIPTION
1	06/13/19	CDR	REVISED PER COMMENTS AND SWPPP DESIGN.
2	07/11/19	CDR	REVISED PER PLANNING BOARD COMMENTS & OCDOH SUBMISSION.

REGISTERED LANDSCAPE ARCHITECT · JUSTIN E. DATES · 001964 · STATE OF NEW YORK

JUSTIN E. DATES
NEW YORK REGISTERED
LANDSCAPE ARCHITECT - LICENSE NUMBER: 001964

BJ's WHOLESALE CLUB

FOR

GDPBJ, LLC

SECTION 97
BLOCK 2
LOTS 27.32, 44, 45 & 46.2

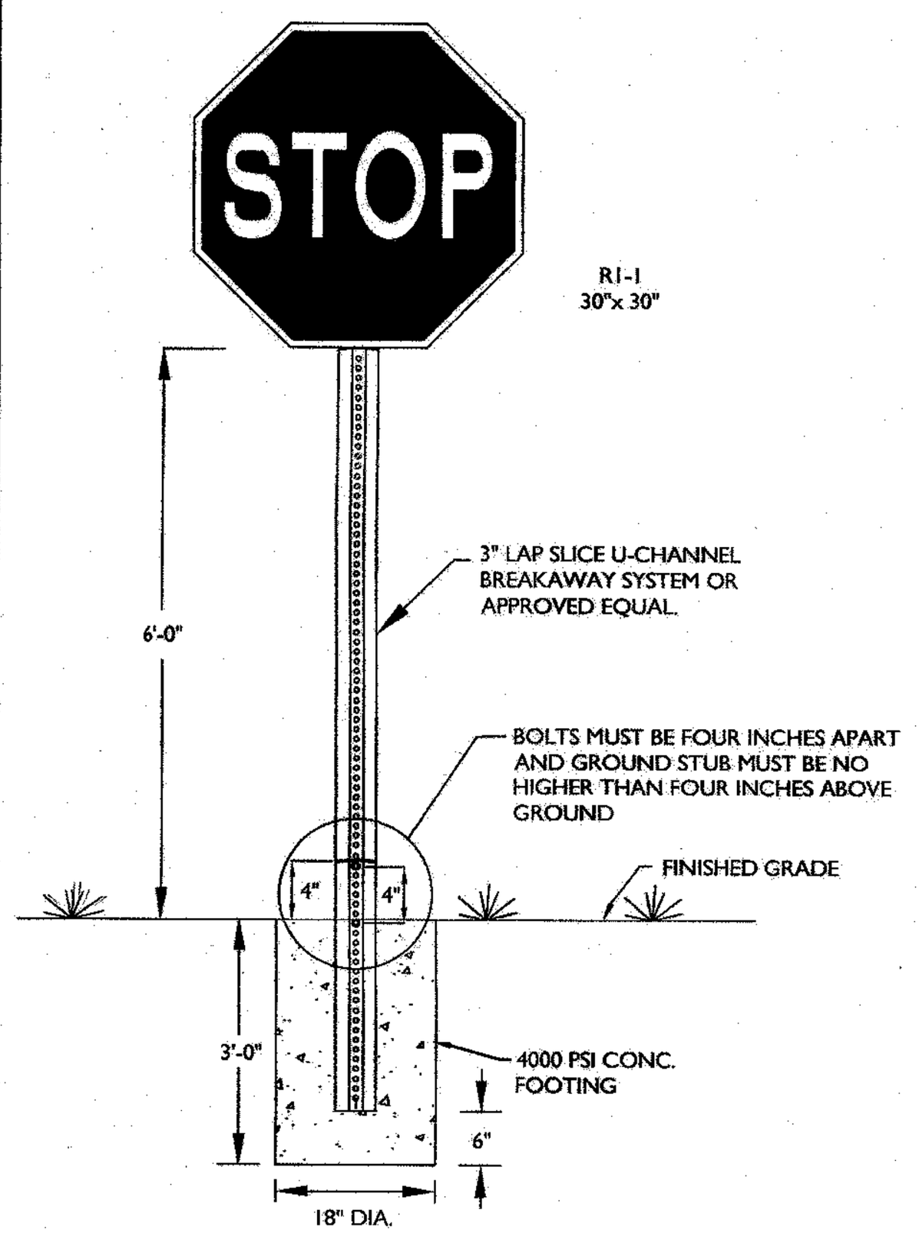
TOWN OF NEWBURGH
ORANGE COUNTY
NEW YORK STATE

NEW WINDSOR OFFICE
555 Hudson Valley Avenue
Suite 101
New Windsor, NY 12553
Phone: 845.564.4495
Fax: 845.567.1025

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	05/24/19	CPM	JED

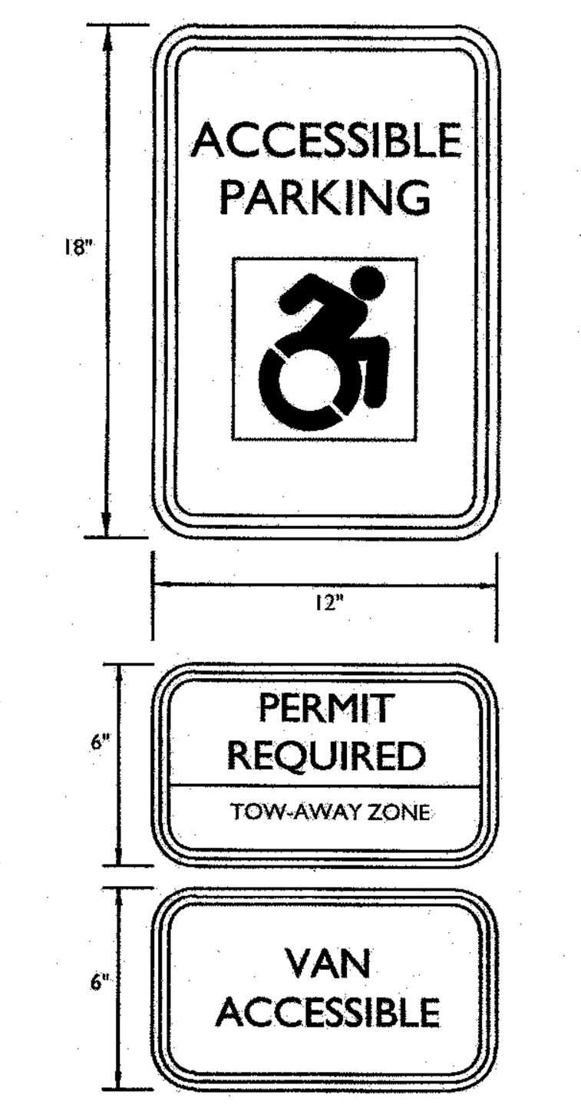
PROJECT NUMBER: 18000471A | DRAWING NAME: C-LGHT

SHEET TITLE: LIGHTING PLAN



BREAKAWAY STOP SIGN WITH POST DETAIL

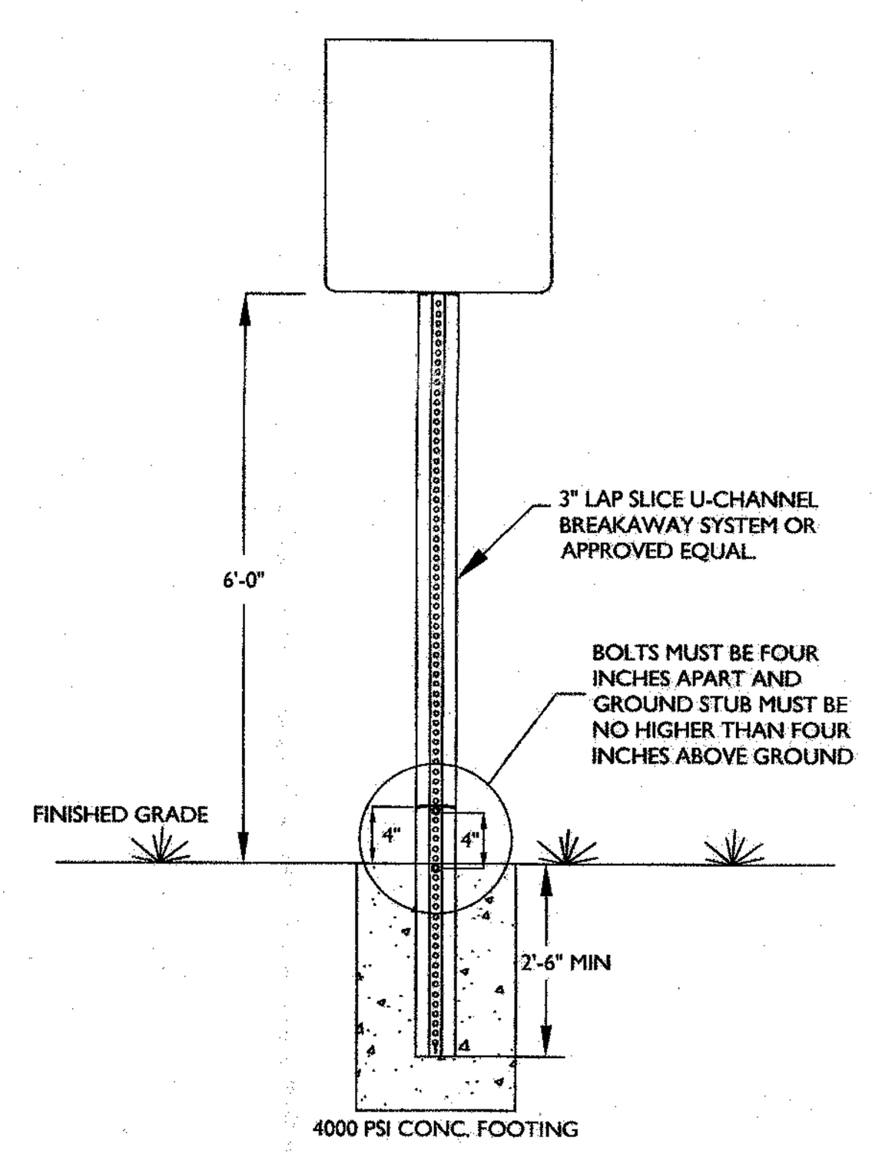
N.T.S.



NOTES:
1. SIGN COLORS TO BE IN ACCORDANCE WITH CURRENT ADA STANDARDS.

SIGN FOR ACCESSIBLE PARKING SPACE

N.T.S.



BREAKAWAY SIGN POST DETAIL

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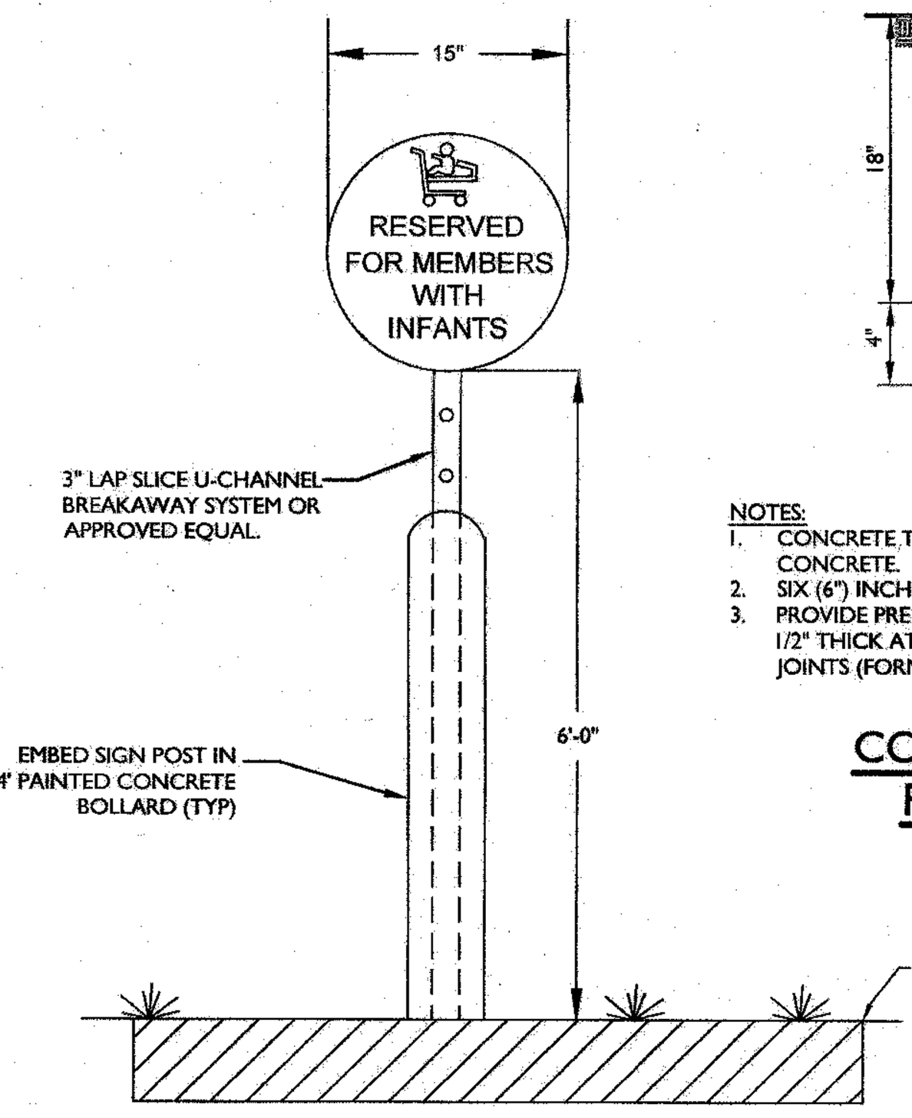

MEMBER WITH INFANT SIGN DETAIL

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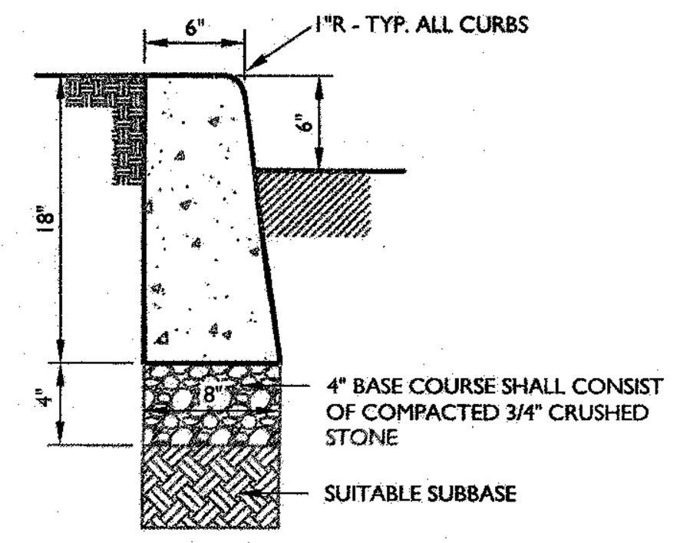
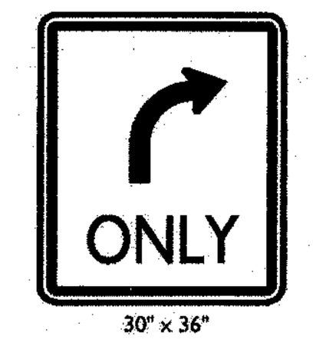


NOTES:
1. CONCRETE TO BE 4000 PSI AIR-ENTRAINED PORTLAND CEMENT CONCRETE.
2. SIX (6") INCH FACE TO BE PROVIDED.
3. PROVIDE PRE FORMED BITUMINOUS FIBER EXPANSION JOINTS, 1/2" THICK AT 20'-0" (MAX.) INTERVALS. PROVIDE DUMMY JOINTS (FORMED) MIDWAY BETWEEN EXPANSION JOINTS.

CONCRETE CURB FOR ON-SITE

N.T.S.



30" x 36"

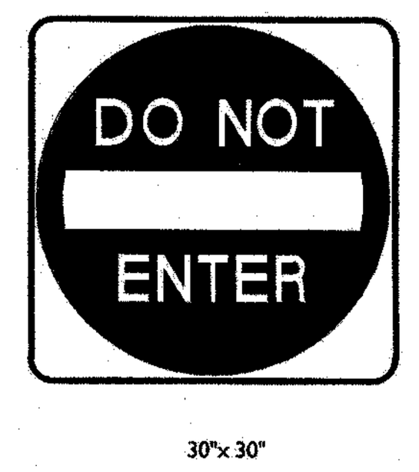
RIGHT TURN ONLY SIGN (R3-5R)

N.T.S.

12"x18"

NO PARKING ANY TIME SIGN (R7-1)

N.T.S.



30"x 30"

DO NOT ENTER SIGN (R5-1)

N.T.S.

12"x18"

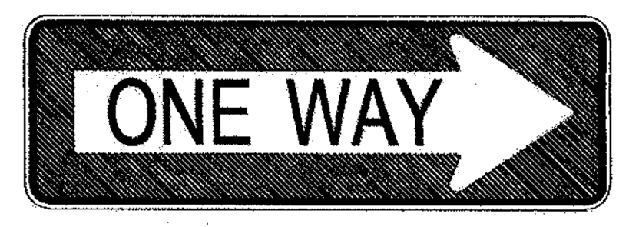
PROPANE FILLING PARKING ONLY SIGN

N.T.S.

12"x18"

TIRE CENTER PARKING ONLY SIGN

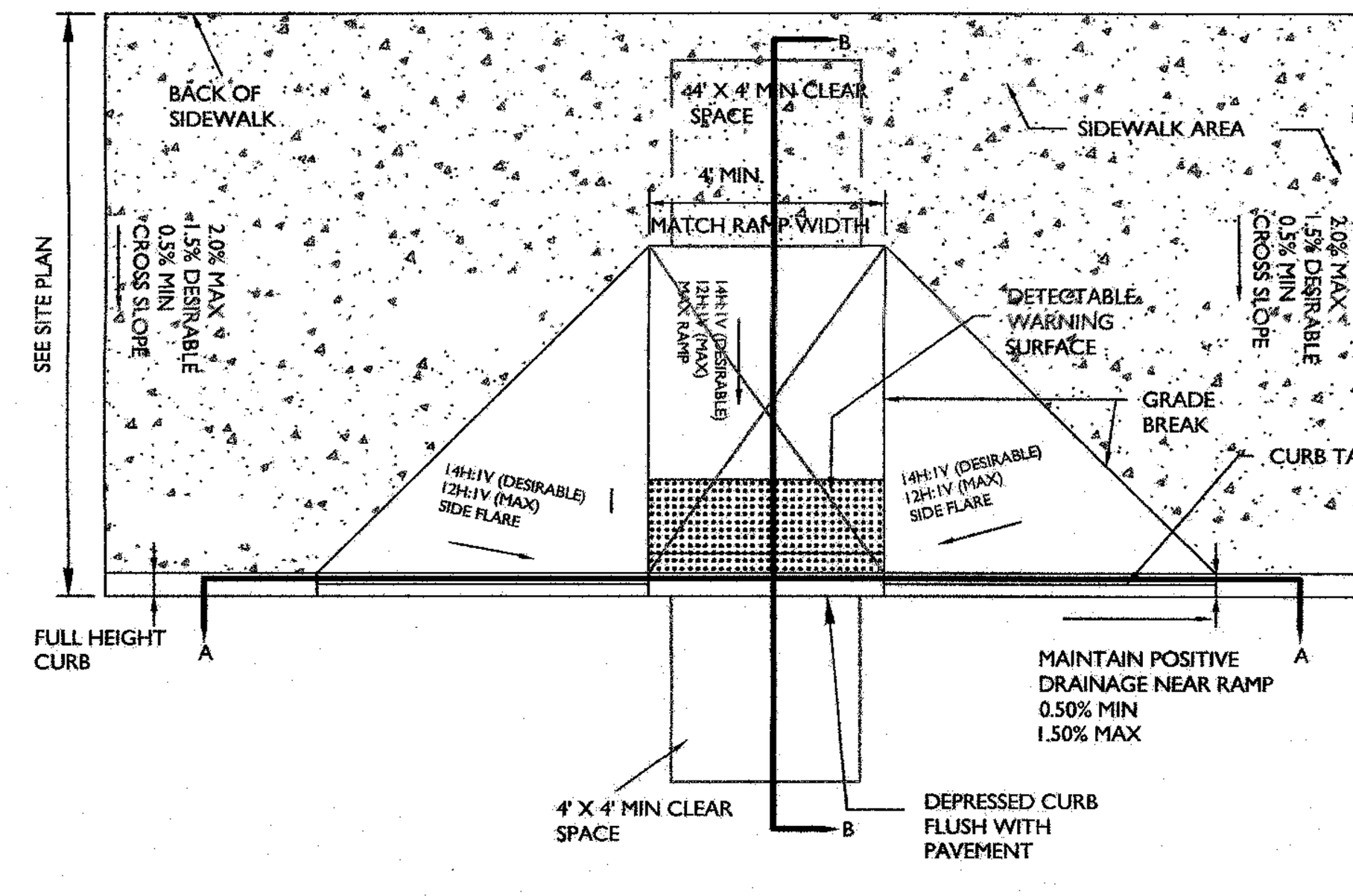
N.T.S.



R6-1
SINGLE LANE - (36"x12")

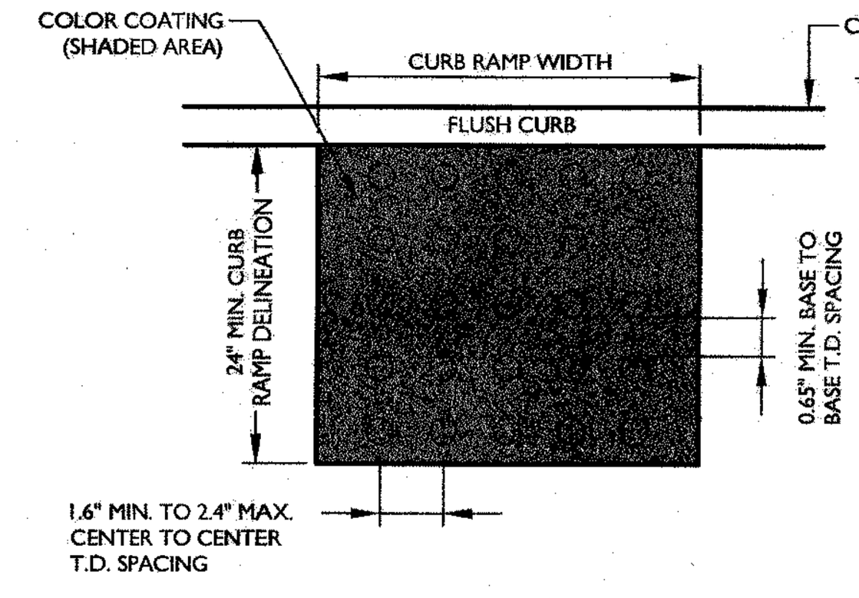
ONE WAY SIGN

N.T.S.

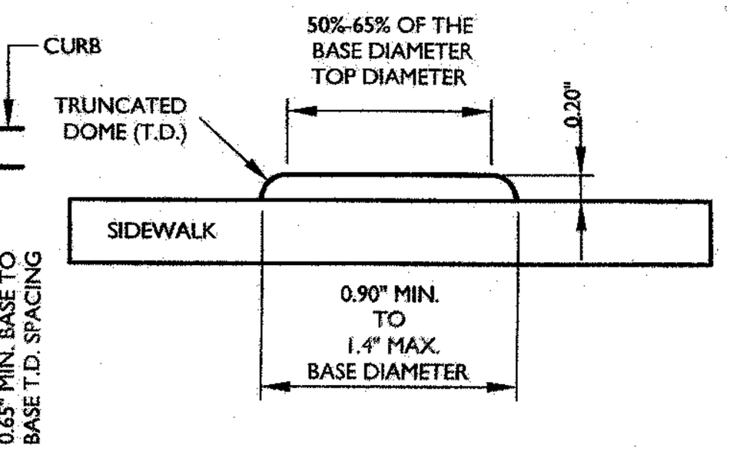


CURB RAMP

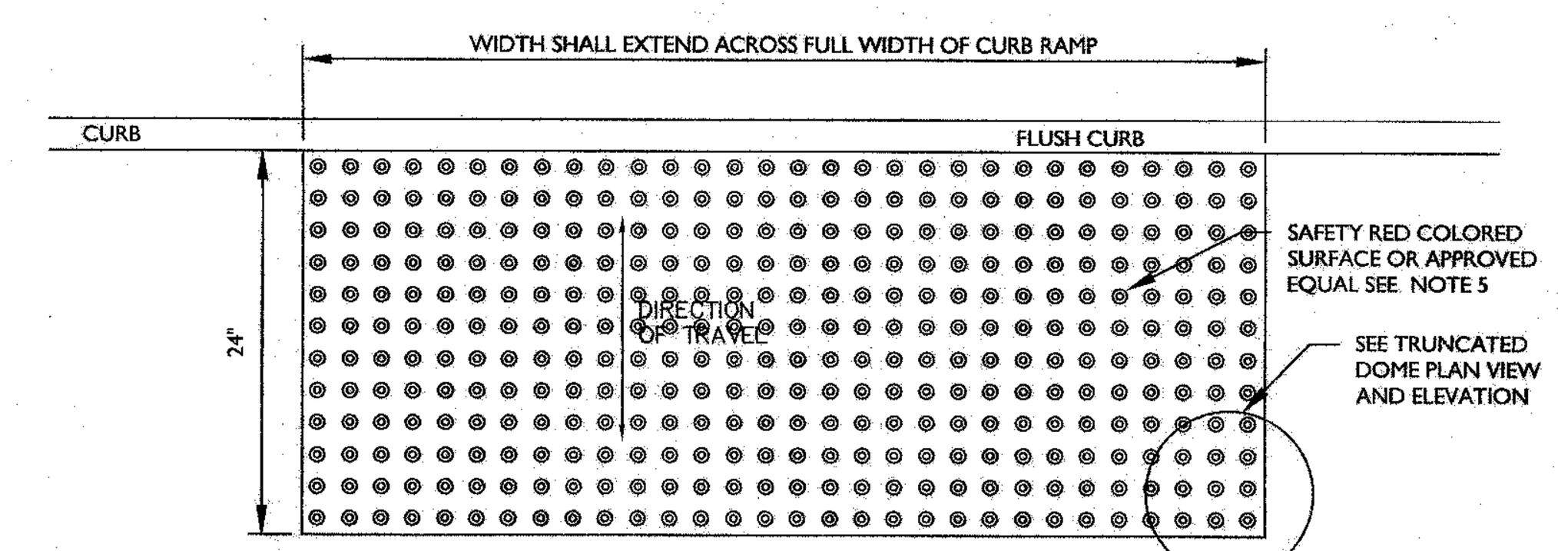
N.T.S.



PLAN VIEW ENLARGEMENT



TRUNCATED DOME ELEVATION

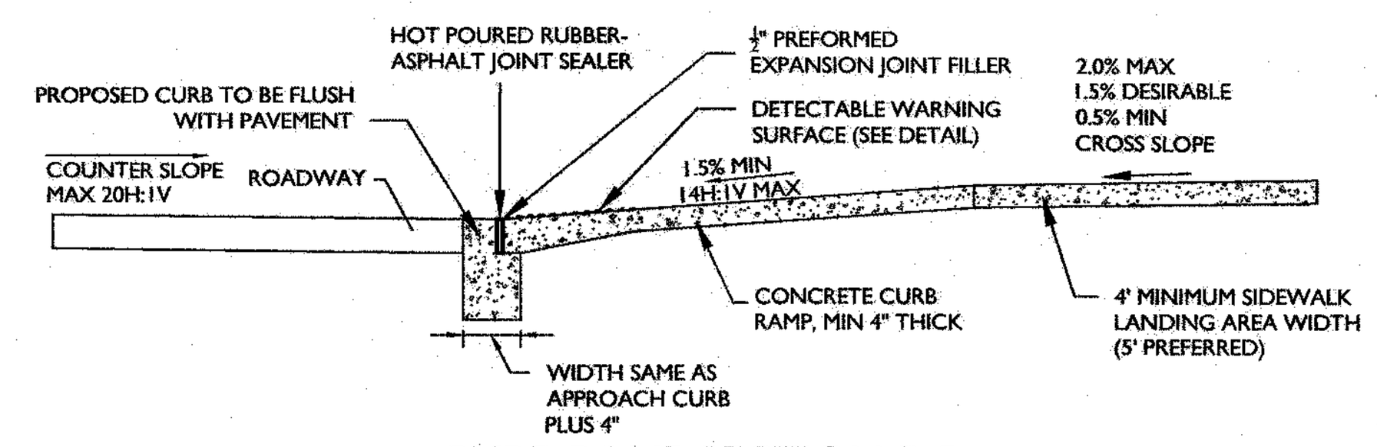


NOTES:
1. THE DETECTABLE WARNING SURFACE SHALL BE MANUFACTURED MATS THAT ARE EMBEDDED AND CAST-IN-PLACE IN THE CONCRETE.
2. IN LIEU OF A CAST IN PLACE DETECTABLE WARNING SURFACE, THE CONTRACTOR MAY UTILIZE A SURFACE APPLIED DETECTABLE WARNING SURFACE WITH PRIOR APPROVAL OF THE UNDERSIGNED ENGINEER AND PRIOR TO POURING OF THE CONCRETE RAMP.
3. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A SHOP DRAWING OF THE DETECTABLE WARNING SURFACE PRIOR TO CONSTRUCTION FOR APPROVAL.
4. THE CONTRACTOR SHALL PROVIDE A MANUFACTURER CERTIFICATION THAT THE DETECTABLE WARNING SURFACE COMPLIES WITH THE CURRENT ADA STANDARDS FOR ACCESSIBLE DESIGN AS PUBLISHED BY THE DEPARTMENT OF JUSTICE AND THE ADA STANDARDS AS SUPPORTED BY THE UNITED STATES ACCESS BOARD, AND THE STATE AND/OR LOCAL ADA STANDARDS.
5. SAFETY RED SHALL BE APPROVED BY THE LOCAL JURISDICTION PRIOR TO INSTALLATION. DETECTABLE WARNING SURFACES SHALL CONTRAST VISUALLY WITH ADJACENT WALKING SURFACES EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT. ALTERNATIVE COLOR MAY BE USED PROVIDED SUCH COLOR COMPLIES WITH CURRENT ADA STANDARDS.
6. DETECTABLE WARNINGS SHALL CONSIST OF A SURFACE OF TRUNCATED DOMES AND SHALL COMPLY DETECTABLE WARNINGS.
7. TRUNCATED DOMES IN A DETECTABLE WARNING SURFACE SHALL HAVE A BASE DIAMETER OF 0.9 INCH (23 mm) MINIMUM AND 1.4 INCHES (36 mm) MAXIMUM, A TOP DIAMETER OF 50 PERCENT OF THE BASE DIAMETER MINIMUM TO 65 PERCENT OF THE BASE DIAMETER MAXIMUM, AND A HEIGHT OF 0.2 INCH (5.1 mm).
8. TRUNCATED DOMES IN DETECTABLE WARNING SURFACE SHALL HAVE A CENTER-TO-CENTER SPACING OF 1.6 INCHES (41 mm) MINIMUM AND 2.4 INCHES (61 mm) MAXIMUM, AND A BASE-TO-BASE SPACING OF 0.65 INCH (17 mm) MINIMUM, MEASURED BETWEEN THEY MOST ADJACENT DOMES ON A SQUARE GRID.

DETECTABLE WARNING SURFACE

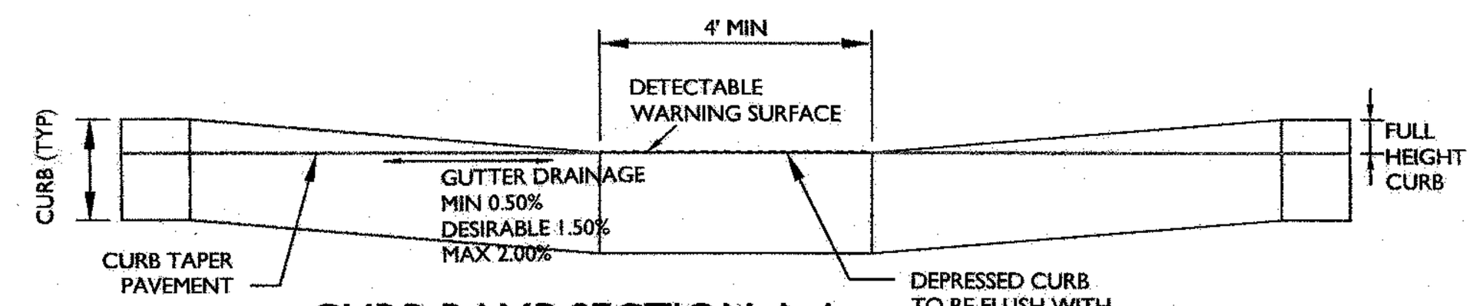
N.T.S.

CURB RAMP NOTES:
1. THE CONTRACTOR SHALL PREPARE SHOP DRAWINGS OF EACH CURB RAMP FOR SUBMISSION AND APPROVAL OF THE UNDERSIGNED PROFESSIONAL AND THE MUNICIPAL, COUNTY, STATE OR OTHER AGENCY'S ENGINEER HAVING JURISDICTION.
2. LANDING AREA, APPROACH SIDEWALK TRANSITIONS AND CURB RAMP SHALL BE KEPT CLEAR OF OBSTRUCTIONS.
3. CURB (DROPPED CURB) GUTTER-LINE TO BE FLUSH WITH ROADWAY PAVEMENT.
4. CROSSWALKS AND PAVEMENT MARKINGS TO BE INSTALLED AS DENOTED ON SITE PLAN.
5. MAXIMUM RAMP SLOPE MAY BE 12H:1V UPON APPROVAL OF ENGINEER. RAMP SLOPES SHOWN ARE THE PREFERRED SLOPE. SIDE FLARE SLOPES MAY BE 10H:1V UPON THE APPROVAL OF THE ENGINEER.
6. MINIMUM RAMP CROSS-SLOPE SHALL BE 0.50% OR THE MAXIMUM RAMP CROSS-SLOPE MAY BE 2.00% UPON APPROVAL OF THE ENGINEER. CROSS-SLOPES SHOWN IN THE DETAILS ARE THE PREFERRED SLOPE MAINTAIN A LEVEL OF CONSTRUCTION TOLERANCE.
7. 7. ACCESSIBLE RAMPS SHALL BE INSTALLED PURSUANT WITH THE CURRENT UNITED STATES ACCESS BOARD ACCESSIBILITY GUIDELINES FOR PEDESTRIAN FACILITIES AND THE ADA STANDARDS FOR ACCESSIBLE DESIGN AS PUBLISHED BY THE UNITED STATES DEPARTMENT OF JUSTICE AND OTHER APPLICABLE LOCAL AND STATE STANDARDS IN EFFECT AT THE DATE OF CONSTRUCTION.
8. DEVIATION FROM THE CURB RAMP DETAIL REQUIRES THE WRITTEN APPROVAL OF THE UNDERSIGNED PROFESSIONAL AND THE MUNICIPAL, COUNTY, STATE OR OTHER AGENCY'S ENGINEER HAVING JURISDICTION.
9. THE RAMP SURFACE SHALL BE A NON-SLIP, HAND BROOMED FINAL FINISH OF CONCRETE SURFACES.
10. CONCRETE EXPANSIONS JOINTS SHALL BE FIRM SURFACES, WITH CONCRETE EDGES 1/4" BEVELED, AND WITH THE JOINT SURFACE NOT MORE THAN 1/4" BELOW THE ADJOINING CONCRETE SURFACE.
11. CURB RAMPS MUST BE WHOLLY CONTAINED WITHIN THE CROSSWALK CROSSING.
12. THE CLEAR SPACE SHALL BE INCREASED TO 5 FEET WHERE THE TURNING SPACE IS CONSTRAINED AT THE BACK OF THE SIDEWALK.
13. ON CURVED CROSSWALKS, THE MAXIMUM SEPARATION BETWEEN THE CURB AND DETECTABLE WARNING SURFACE SHALL NOT EXCEED 5 FEET. THE MAXIMUM SEPARATION AREA MAY BE WITHIN THE 4' BY 4' CLEAR ZONE. A SHOP DRAWING SHALL BE SUBMITTED PRIOR TO CONSTRUCTION FOR APPROVAL.



CURB RAMP SECTION B-B

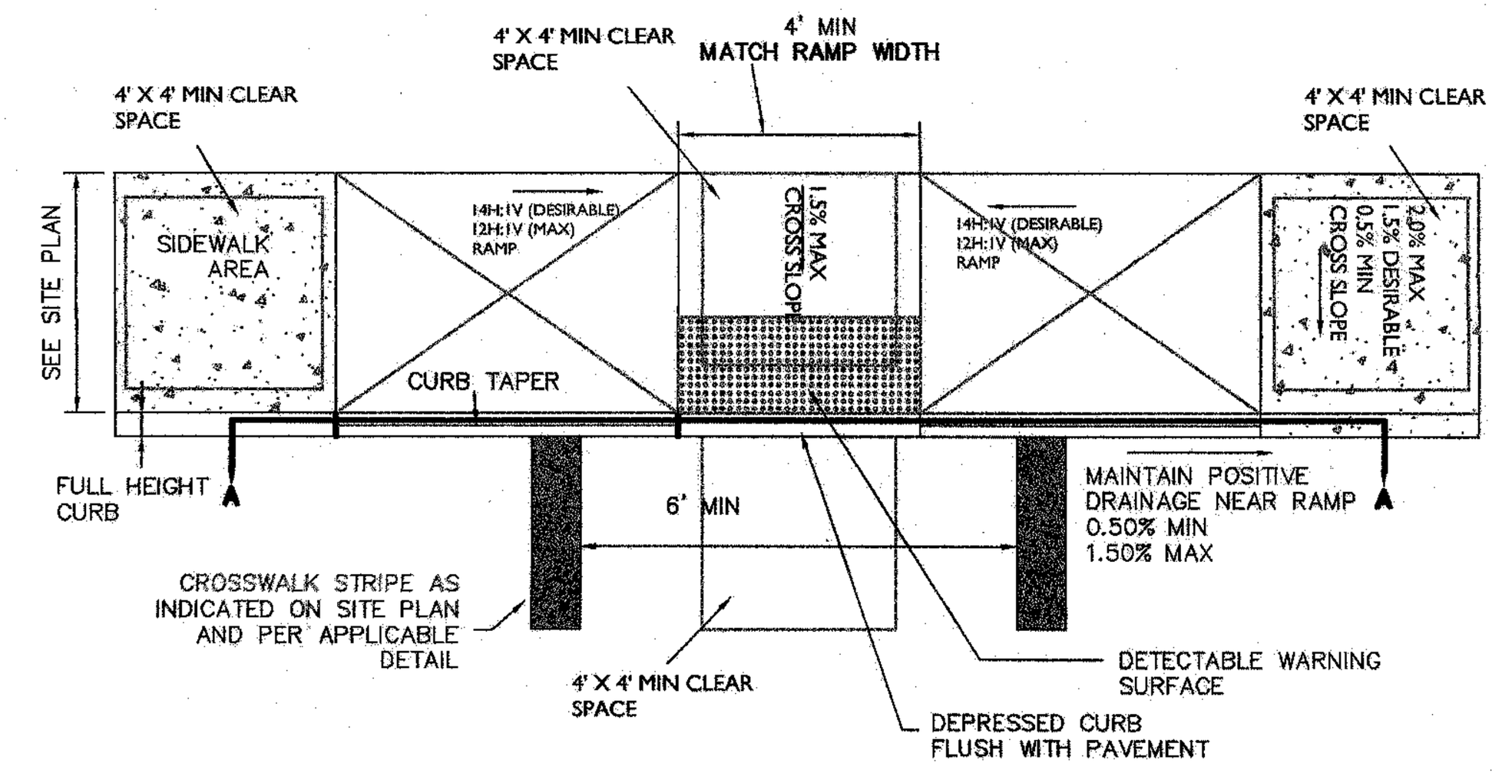
N.T.S.



CURB RAMP SECTION A-A

N.T.S.

NOTES:
1. DEPRESSED CURB AT DETECTABLE WARNING SHALL BE A SMOOTH LEVEL SURFACE THAT IS FLUSH WITH THE ADJOINING PAVEMENT. NO BUMPS OR ROUGH SURFACE ARE ALLOWED. SUCH UNEVENNESS SHALL BE MILLED OR GRINDER SMOOTH.
2. POSITIVE DRAINAGE SHALL BE MAINTAINED AT RAMP. RAMP SHALL SLOPE TOWARDS PAVEMENT NO PONDING OF WATER IS PERMITTED AT CURB RAMP. PAVEMENT GRADES TO BE ADJUSTED AS NECESSARY TO PROVIDE POSITIVE DRAINAGE.
3. CURB (DROPPED CURB) GUTTER-LINE TO BE FLUSH WITH ROADWAY PAVEMENT.
4. MAXIMUM GUTTER DRAINAGE GRADE MAY BE INCREASED TO 2.00% UPON THE WRITTEN APPROVAL OF THE UNDERSIGNED PROFESSIONAL.
5. DEVIATION FROM THIS DETAIL REQUIRES THE WRITTEN APPROVAL OF THE UNDERSIGNED PROFESSIONAL.



TYPICAL PARALLEL CURB RAMP

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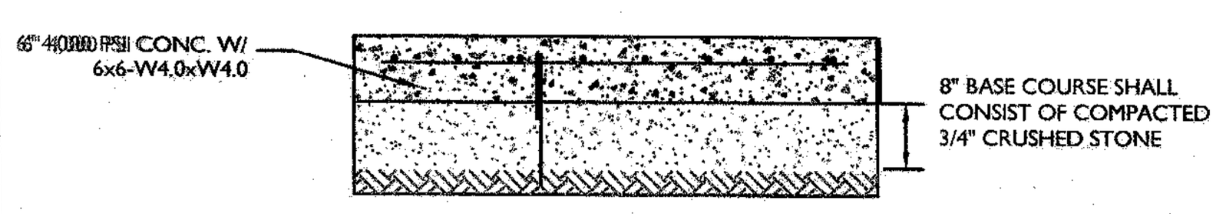
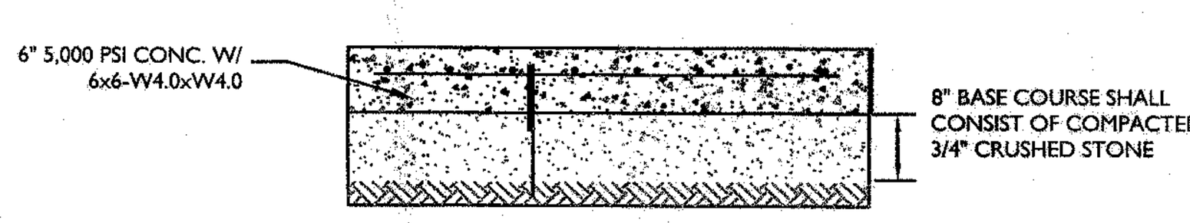


NOTE:
1. 3/4" BIT. EXPANSION JOINTS WHERE PAD CONTACTS BUILDING, SIDEWALK, STEPS OR ABUTTING CONCRETE PAD.
2. THIS DETAIL SHALL APPLY TO DOOR PADS, PROPANE REFILL STATION PAD, TRANSFORMER & GENERATOR PAD.

CONCRETE PAD DETAIL (LIGHT)

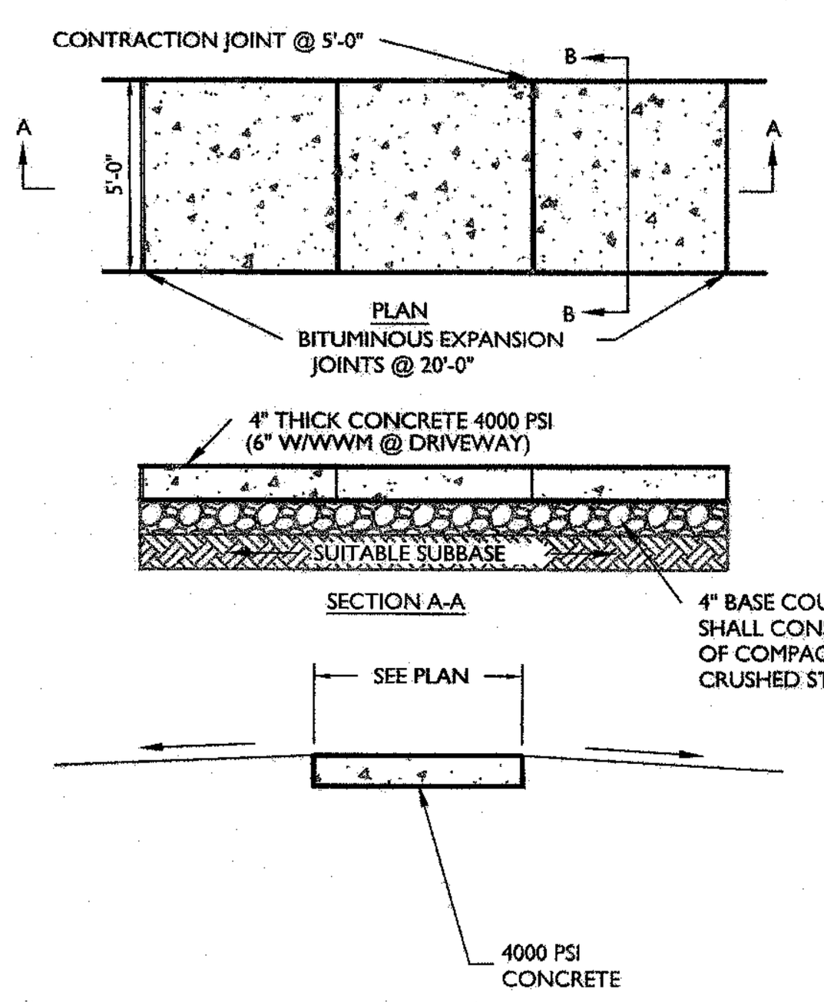
N.T.S.



NOTE:
1. 3/4" BIT. EXPANSION JOINTS WHERE PAD CONTACTS BUILDING, SIDEWALK, STEPS OR ABUTTING CONCRETE PAD.
2. THIS DETAIL SHALL APPLY TO TRUCK & COMPACTOR PADS, FUELING FACILITY PAD.

CONCRETE PAD DETAIL (HEAVY)

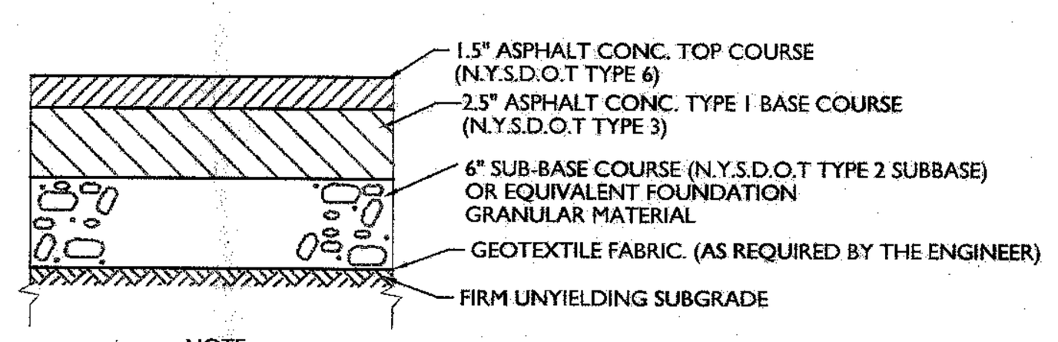
N.T.S.



NOTES:
1. A PREFORMED, BITUMINOUS EXPANSION JOINT 1/2" THICK, 4" WIDE, AND EXTENDING THE FULL WIDTH OF THE WALK, UNBROKEN, SHALL BE INSTALLED EVERY 20 FEET. CONTRACTION JOINTS SHALL BE INSTALLED EVERY 5 FEET (MAX.) THE FULL WALK WIDTH.
2. THERE SHALL BE A BROOM FINISH WITH THE EDGES FINISHED WITH A SUITABLE TOOL.
3. DIMENSIONS SHOWN AS VARIABLE SHALL BE CONFIRMED BY THE ENGINEER.

CONCRETE SIDEWALK

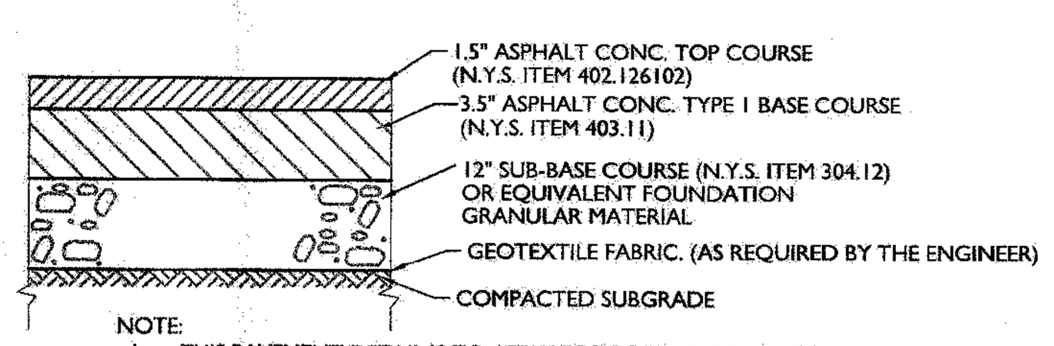
N.T.S.



NOTE:
1. THIS PAVEMENT DETAIL IS TO APPLY FOR BOTH THE PARKING AREAS AND DRIVE AISLES.
2. EXISTING NATIVE SOIL TO BE PROOF ROLLED AND DETERMINED TO BE ADEQUATE FOR USE.

LIGHT DUTY PAVEMENT DETAIL

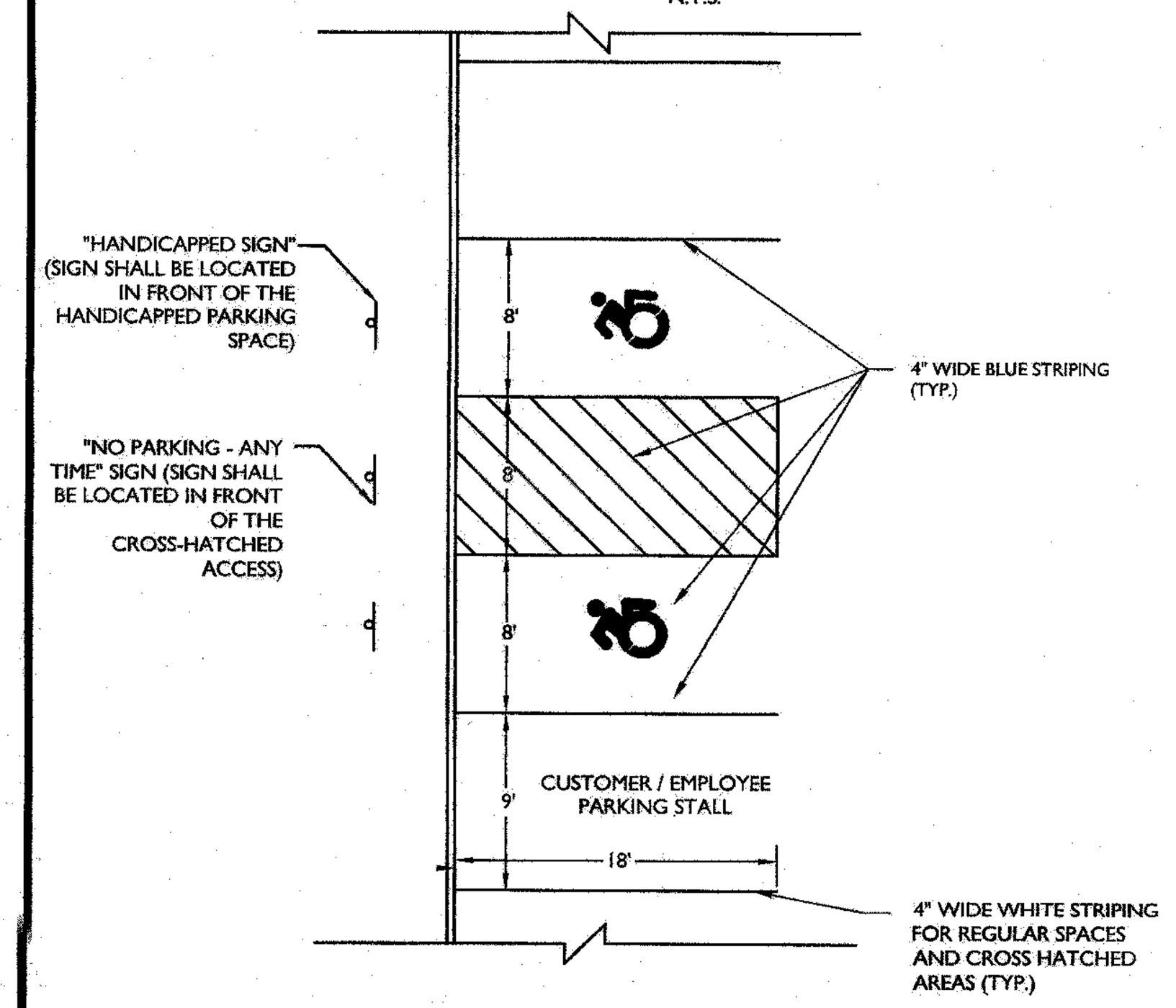
N.T.S.



NOTE:
1. THIS PAVEMENT DETAIL IS TO APPLY FOR BOTH THE PRIMARY AND SECONDARY ACCESS DRIVES, FUELING FACILITY, UNLOADING AREAS, RECEIVING AREA AND TRUCK ROUTES.
2. EXISTING NATIVE SOIL TO BE PROOF ROLLED AND DETERMINED TO BE ADEQUATE FOR USE.
3. GEOTEXTILE FABRIC SHALL BE USED IN AREAS CALL OUT AS HEAVY DUTY PAVEMENT ON THE SITE PLAN OR AS REQUIRED BY THE ENGINEER.

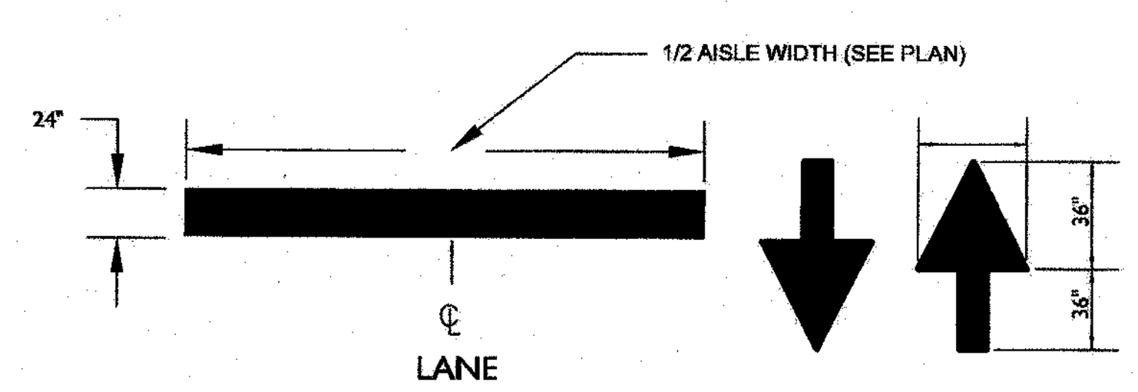
HEAVY DUTY PAVEMENT DETAIL

N.T.S.



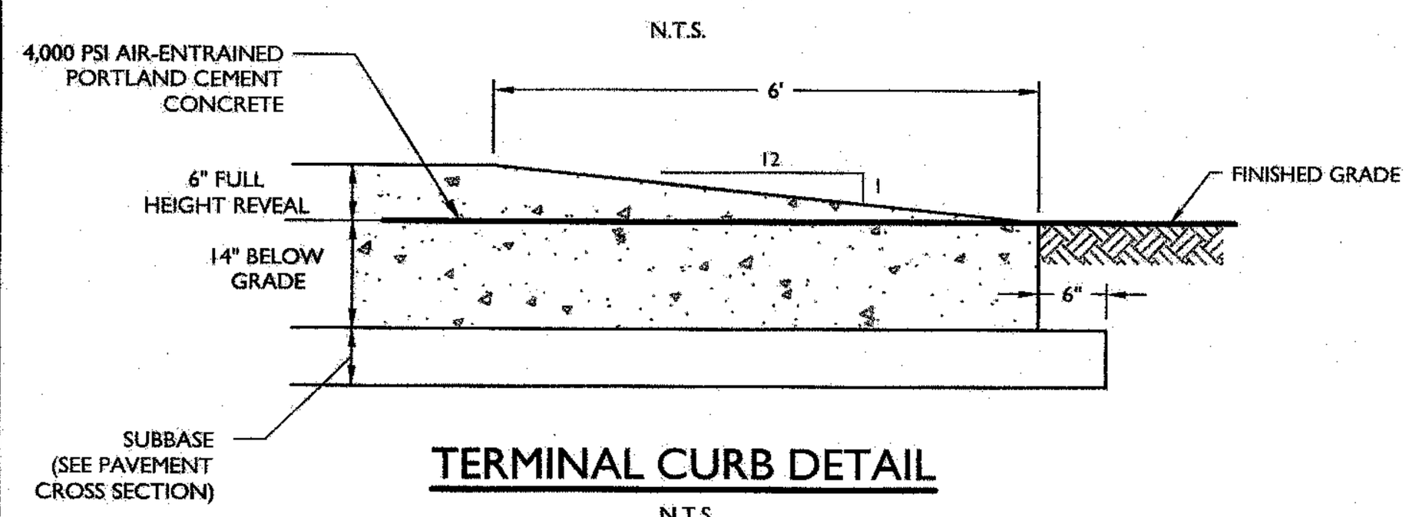
PARKING STALL STRIPING DETAIL

N.T.S.



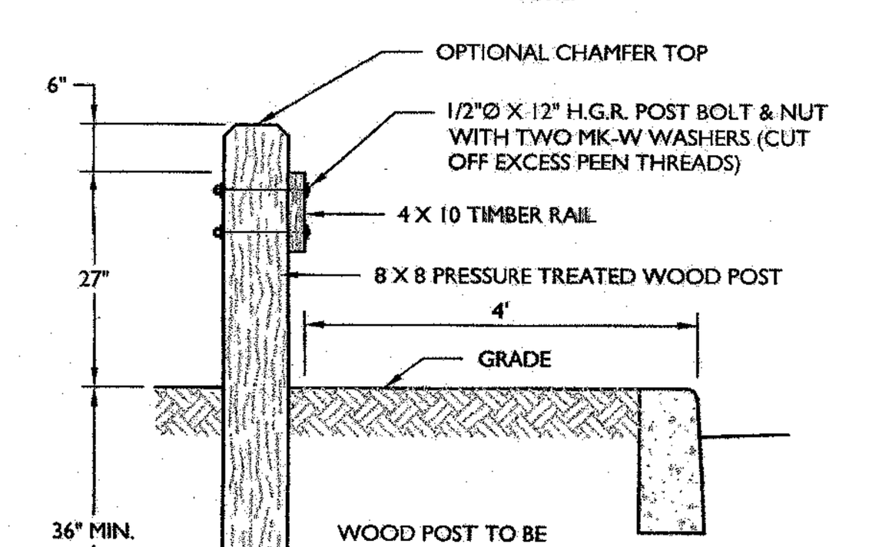
PAINTED STOP BAR & ARROWS

N.T.S.



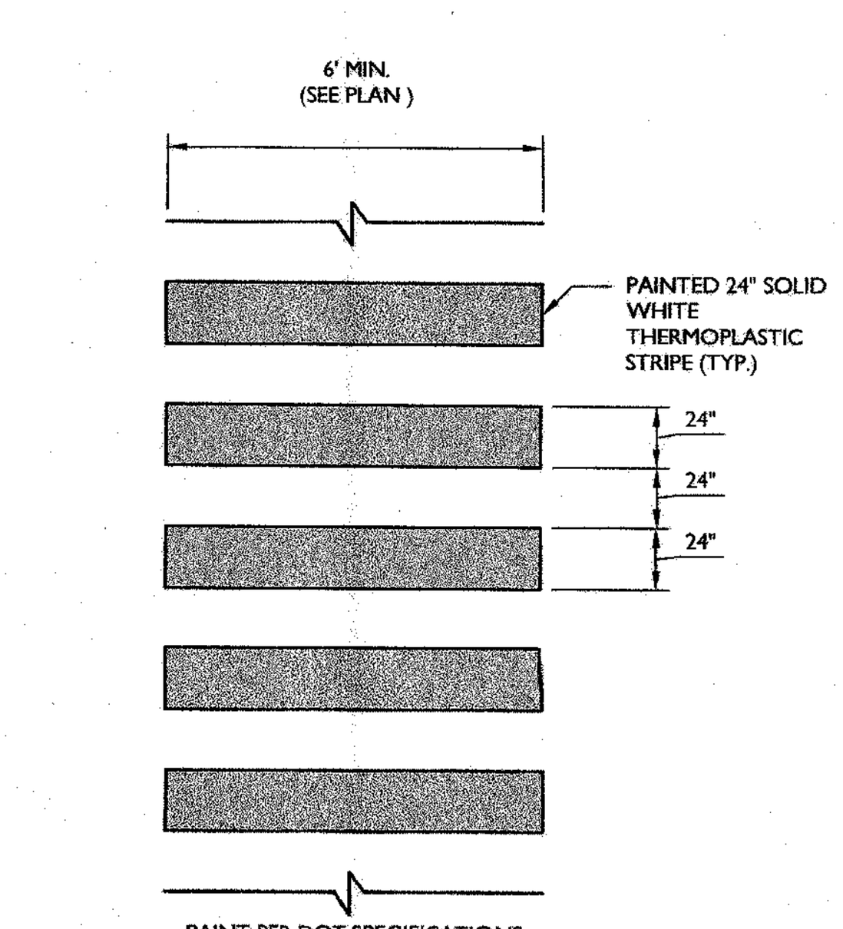
TERMINAL CURB DETAIL

N.T.S.



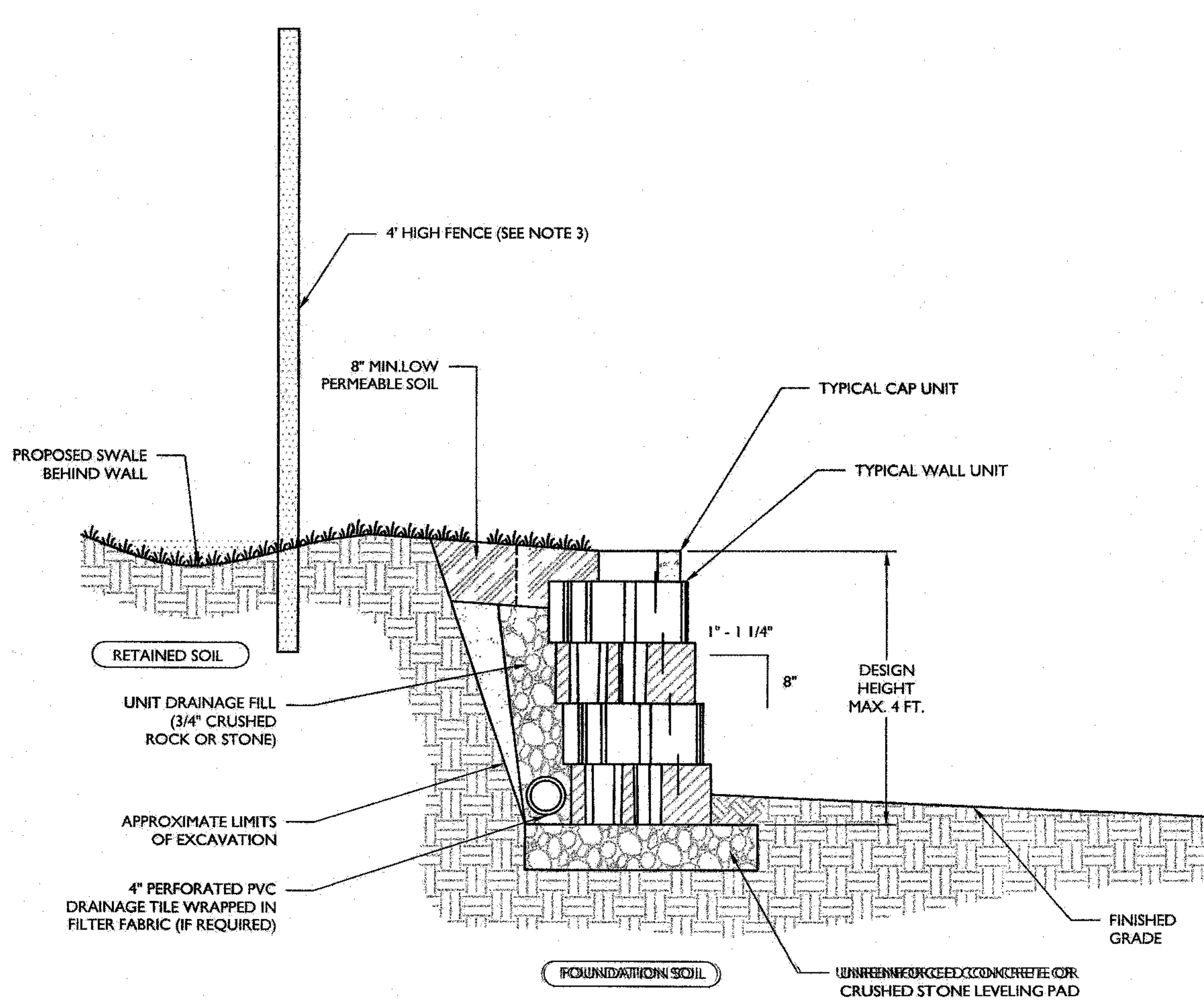
TIMBER GUIDE RAIL DETAIL

N.T.S.



PEDESTRIAN CROSSWALK DETAIL

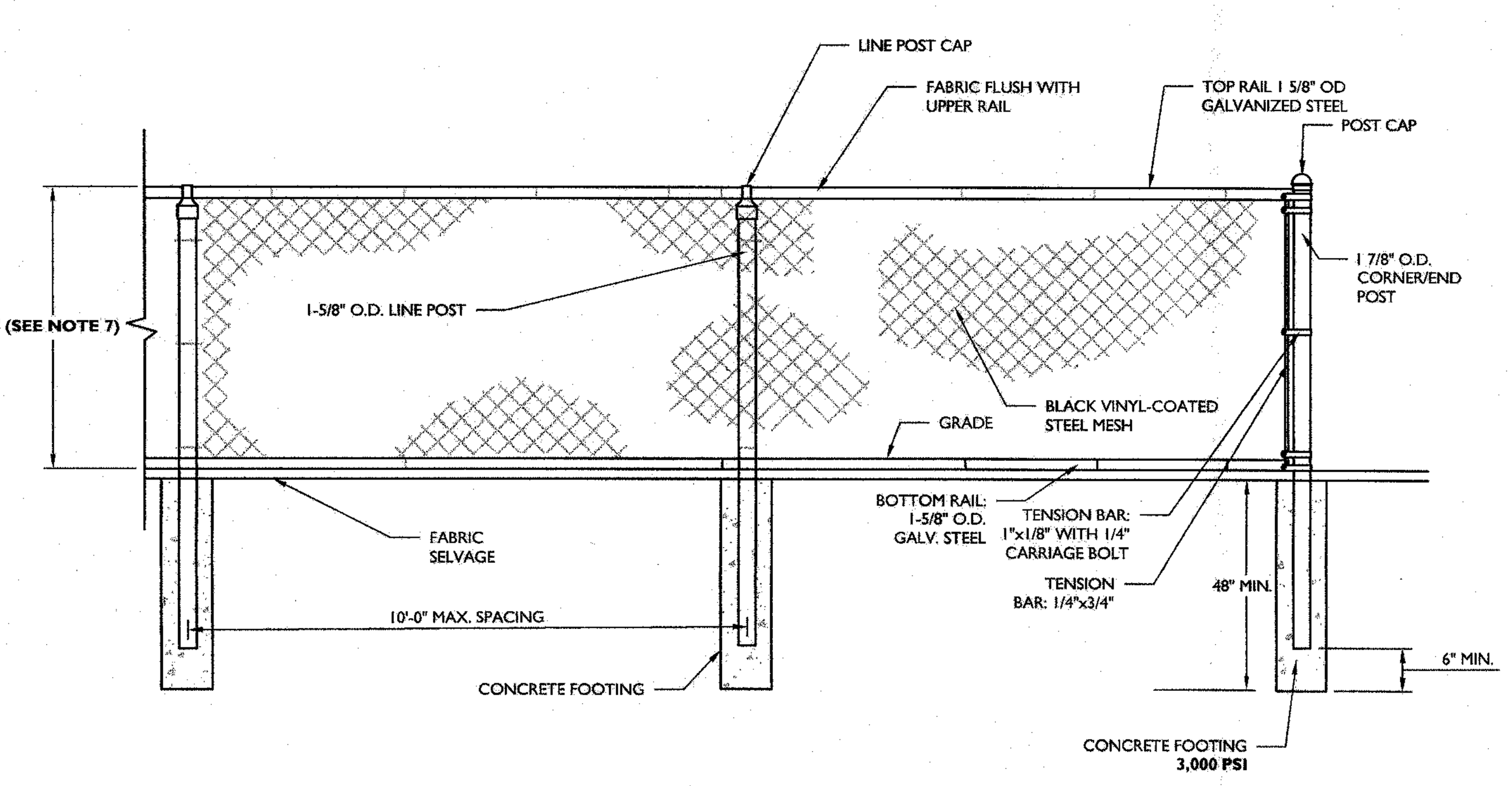
N.T.S.



NOTES:
1. MODULAR CONCRETE BLOCK WALL TO BE INSTALLED IN FIELD IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
2. CONTRACTOR TO PROVIDE SITE SPECIFIC SHOP DRAWINGS AND STRUCTURAL DESIGN CALCULATIONS FOR EACH RETAINING WALL PREPARED BY A STATE LICENSED PROFESSIONAL ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
3. A SAFETY BARRIER (FENCING) IS REQUIRED ON ALL WALLS WHERE THE WALL HEIGHT EXCEEDS 30 INCHES. PLACEMENT AND INSTALLATION METHODS OF THE PROPOSED FENCING TO BE IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS.

TYPICAL GRAVITY BLOCK WALL SECTION (MAXIMUM 4FT. DESIGN HEIGHT) DETAIL

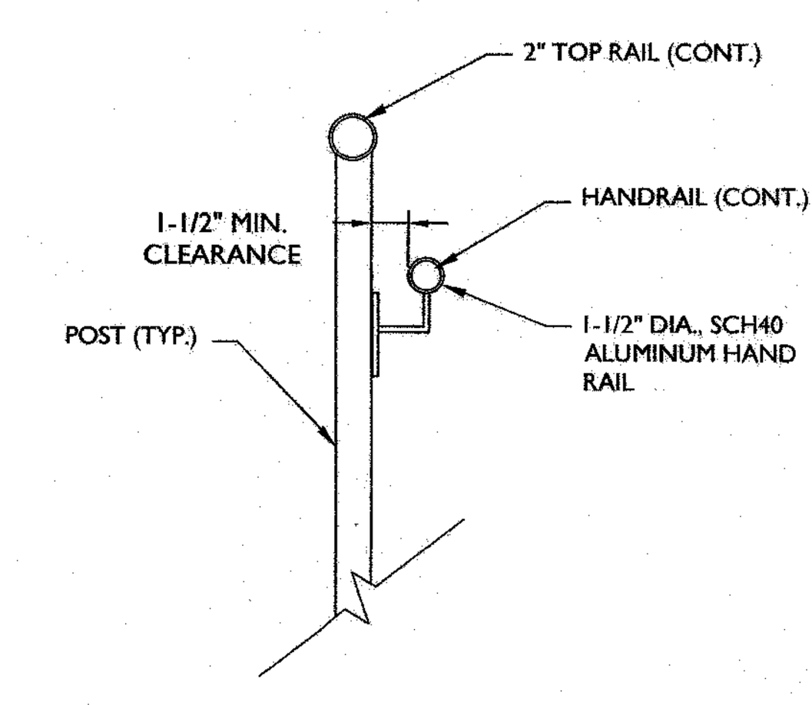
N.T.S.



NOTES:
1. WIRE MESH SHALL BE 1" MESH, 11 GAUGE POWDER COATED STEEL CHAIN LINK FABRIC, WITH KNUCKLED SELVAGE (KK) ON BOTH TOP AND BOTTOM.
2. FENCE FRAMEWORK RAIL AND POST SHALL BE ASTM GROUP 1A, HOT DIP GALVANIZED STEEL PIPE, 16 GAUGE, CLASS 1 ZINC COATED, REGULAR STRENGTH GRADE ASTM 1083, 30,000 PSI YIELD STEEL SCHEDULE 40 ROUND PIPE.
3. BAR LENGTH AND POST HEIGHT ABOVE GRADE PER FENCE HEIGHT AND MANUFACTURER'S SPECIFICATIONS.
4. COLOR OF THE WIRE MESH TO BE **BLACK** UNLESS OTHERWISE SPECIFIED ON THE PLANS.
5. END AND CORNER POST TOP SHALL BE DOME SHAPE.
6. FOOTING WIDTH TO BE (4) X POST WIDTH, MINIMUM DEPTH 36" FOR LINE POSTS, **3,000 PSI** CONCRETE OR AS PER MANUFACTURER'S RECOMMENDATIONS FOR INSTALLING ABOVE THE RETAINING WALL.
7. FENCE HEIGHT TO BE 6' AROUND PROPANE REFILL STATION

4' HIGH CHAIN LINK FENCE DETAIL

N.T.S.



HAND RAIL CLEARANCE DETAIL

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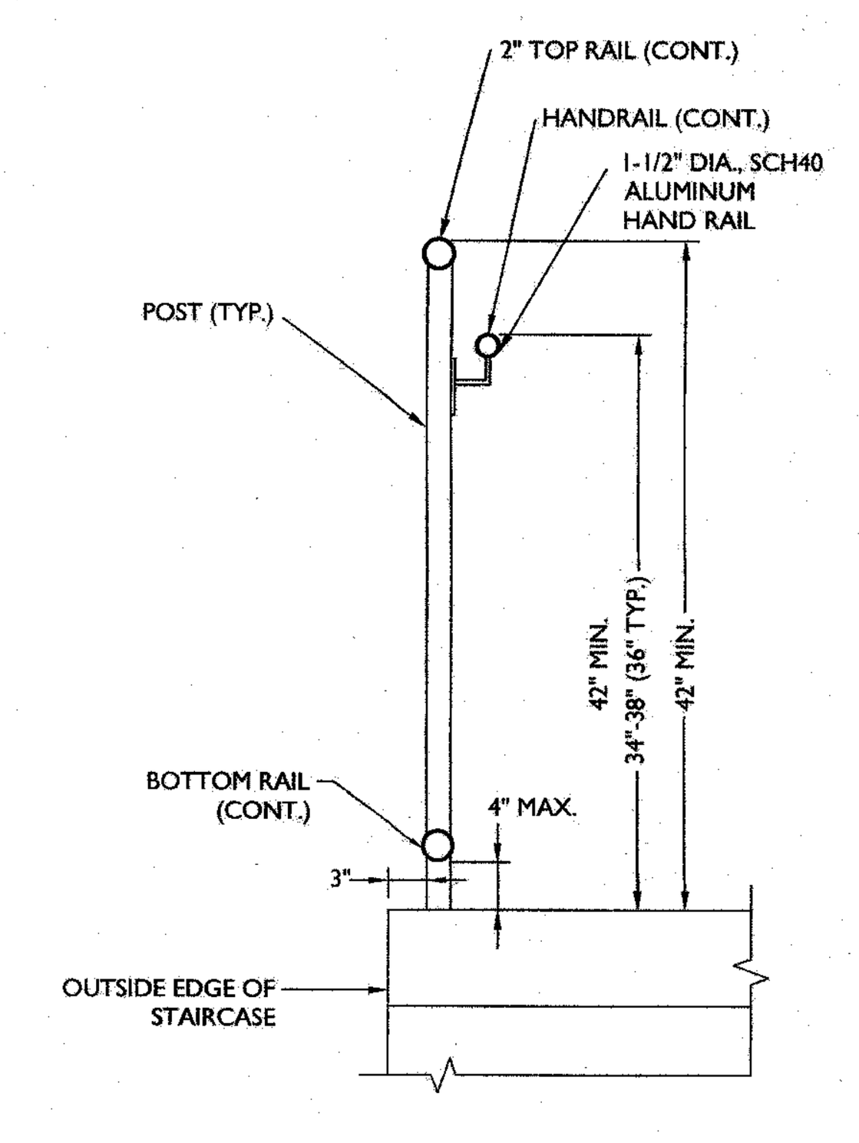

HAND RAILING SECTION

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2	07/11/19	CDR	REVISED PER PLANNING BOARD COMMENTS & DOCOSH SUBMISSION

ANDREW B. FETHERSTON
NEW YORK LICENSED PROFESSIONAL ENGINEER - LICENSE NUMBER: 073555-1

BJ's WHOLESALE CLUB
FOR
GDPBJ, LLC

SECTION 97
BLOCK 2
LOTS 27.32, 44, 45 & 46.2

TOWN OF NEWBURGH
ORANGE COUNTY
NEW YORK STATE

NEW WINDSOR OFFICE
555 Hudson Valley Avenue
Suite 101
New Windsor, NY 12553
Phone: 845.564.4495
Fax: 845.567.1025

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	05/24/19	CDR	ABF
PROJECT NUMBER: 18000471A	DRAWING NAME: C-DTLS		

SHEET TITLE: CONSTRUCTION DETAILS

SANITARY SEWER NOTES

1. SANITARY SEWERS ARE TO BE OF SDR 35 PVC (OR HEAVIER IF REQUIRED BY THE MUNICIPALITIES ENGINEER DUE TO LOADING CONDITIONS).
2. ALL LATERALS TO BE INSTALLED BY PLUMBERS, LICENSED IN THE MUNICIPALITY AND ALL WORK SHALL BE INSPECTED BEFORE BACKFILLING.
3. ALL PIPE SHALL BE BEDDED (CUSHIONED) ON MINIMUM OF 6" THICK LAYER OF 3/4" CRUSHED STONE. ADDITIONALLY, THE 3/4" CRUSHED STONES SHALL BE PLACED 1/4 THE HEIGHT OF THE PIPE ZONE.
4. SANITARY SEWER CONSTRUCTION SHALL MEET ALL SEWER CONSTRUCTION SPECIFICATIONS FOR THE TOWN OF NEWBURGH.
5. A REPRESENTATIVE FROM THE TOWN MUST BE PRESENT FOR ALL TESTING OF THE SANITARY SEWERS.
6. TEST RESULTS FOR THE FOLLOWING TESTS MUST BE SUBMITTED AND ACCEPTED BY THE TOWN PRIOR TO USE.

TV INSPECTION SHALL BE PERFORMED ON SANITARY SEWERS AS REQUIRED BY THE TOWN.

VACUUM TEST
THE VACUUM TEST SHALL MEET THE REQUIREMENTS OF C1244-02 STANDARD TEST METHOD FOR CONCRETE SEWER MANHOLES BY THE NEGATIVE AIR PRESSURE (VACUUM) TEST PRIOR TO BACKFILL.

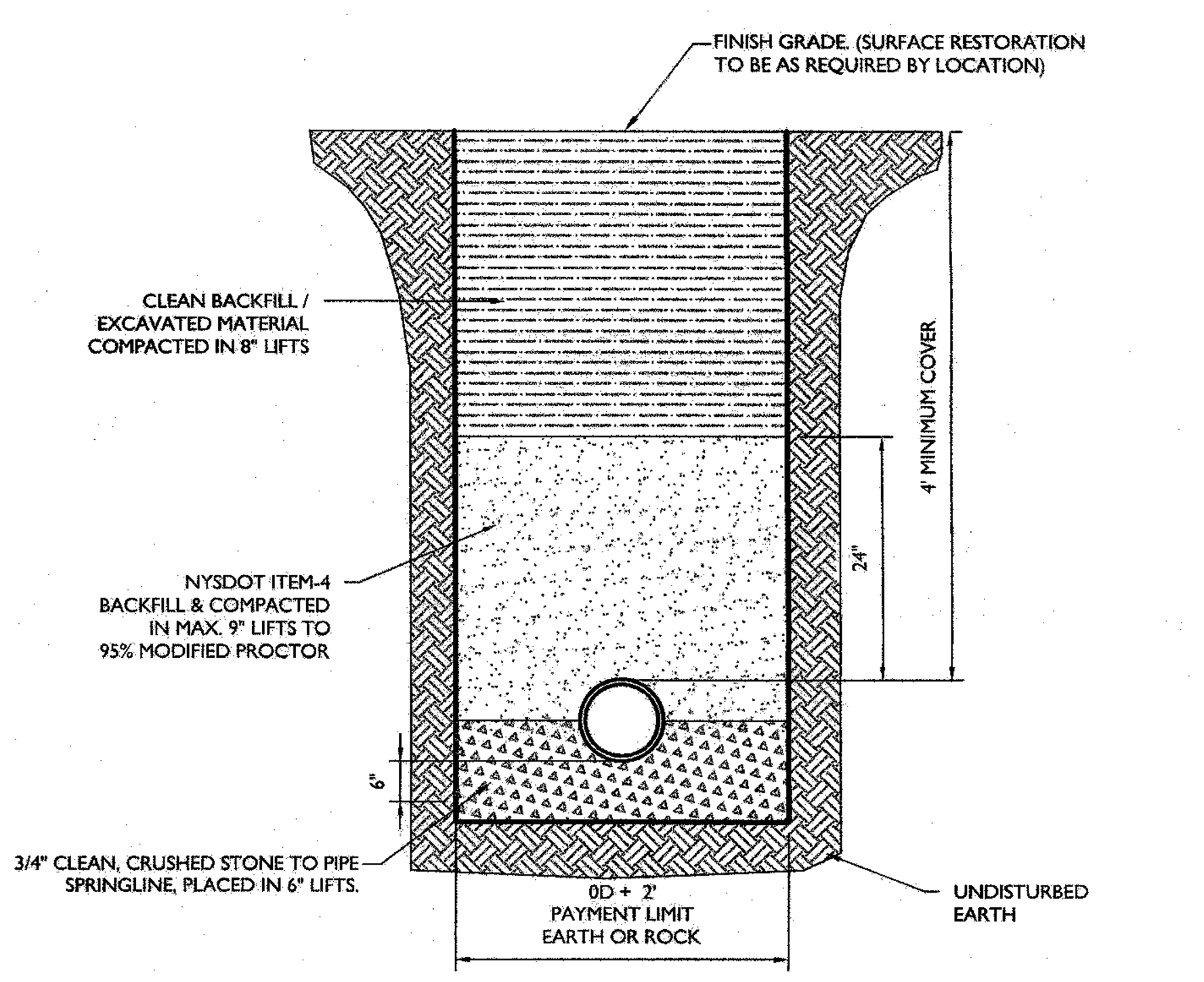
LEAKAGE TESTS
LEAKAGE TESTS SHALL BE SPECIFIED. THIS MAY INCLUDE APPROPRIATE WATER OR LOW PRESSURE AIR TESTING. THE TESTING METHODS SELECTED SHOULD TAKE INTO CONSIDERATION THE RANGE IN GROUNDWATER ELEVATIONS DURING THE TEST AND ANTICIPATED DURING THE DESIGN LIFE OF THE SEWER.

WATER (HYDROSTATIC) TEST
THE LEAKAGE EXFILTRATION OR INFILTRATION SHALL NOT EXCEED 100 GALLONS PER INCH OF PIPE DIAMETER PER MILE PER DAY (0.02 M3/MM OF PIPE DIA./KM/DAY) FOR ANY SECTION OF THE SYSTEM. AN EXFILTRATION OR INFILTRATION TEST SHALL BE PERFORMED WITH A MINIMUM POSITIVE HEAD OF 2 FEET (600 MM).

DEFLECTION TEST
DEFLECTION TESTS SHALL BE PERFORMED ON ALL FLEXIBLE PIPE. THE TEST SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS TO PERMIT STABILIZATION OF THE SOIL-PIPE SYSTEM. NO PIPE SHALL EXCEED A DEFLECTION OF 5 PERCENT. IF DEFLECTION EXCEEDS 5 PERCENT, REPLACEMENT OR CORRECTION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH REQUIREMENTS IN THE APPROVED SPECIFICATIONS. THE RIGID BALL OR MANDREL USED FOR THE DEFLECTION TEST SHALL HAVE A DIAMETER NOT LESS THAN 95 PERCENT OF THE BASE INSIDE DIAMETER OR AVERAGE INSIDE DIAMETER OF THE PIPE DEPENDING ON WHICH IS SPECIFIED IN THE ASTM SPECIFICATION, INCLUDING THE APPENDIX, TO WHICH THE PIPE IS MANUFACTURED. THE TEST SHALL BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES.

LAMP ALIGNMENT TEST
INFILTRATION, EXFILTRATION AND VISUAL TESTS BY MEANS OF LIGHT FLASHING BETWEEN MANHOLES SHALL BE AS PER REQUIREMENTS OF TOWN ENGINEER. NO TESTS SHALL BE MADE UNTIL TWO (2) WEEKS BACKFILLING OF SANITARY SEWERS OR LONGER IF CONDITIONS, IN THE AFTER OPINION OF THE TOWN ENGINEER, WARRANT IT.

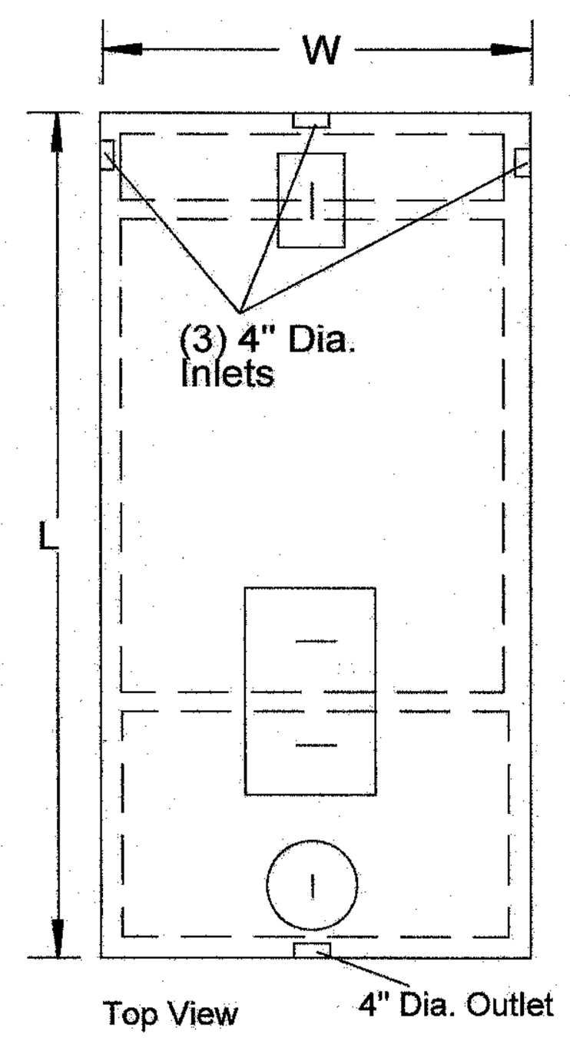
7. THE SANITARY SEWER MAIN INSTALLATION SHALL BE INSPECTED BY A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF NEW YORK AND SHALL BE CERTIFIED TO THE MUNICIPALITY BULDING INSPECTOR THAT THE IMPROVEMENTS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE DESIGN PLANS AND CODE REQUIREMENTS.
8. IF GROUNDWATER IS ENCOUNTERED DURING TRENCH EXCAVATION, THE CONTRACTOR SHALL DEWATER THE TRENCH PRIOR TO INSALLATION. ALL DEWATERING OPERATIONS SHALL BE DONE AT THE CONTRACTOR'S EXPENSE.
9. CONTRACTOR TO VERIFY INVERT ELEVATIONS OF EXISTING SEWER MAIN PRIOR TO COMMENCEMENT OF CONSTRUCTION.
10. CONTRACTOR SHALL CALL THE MUNICIPALITY SEWER DEPARTMENT AT LEAST TWO DAYS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION OF SEWERS.
11. CONTRACTORS SHALL CALL UNDERGROUND MARKOUT AT 1-800-245-2828 AT LEAST TWO DAYS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION OF SEWERS FOR COMPLETE UTILITY MARKOUT.



NOTE:
1. GRAVITY SERVICE SHALL BE SDR 35

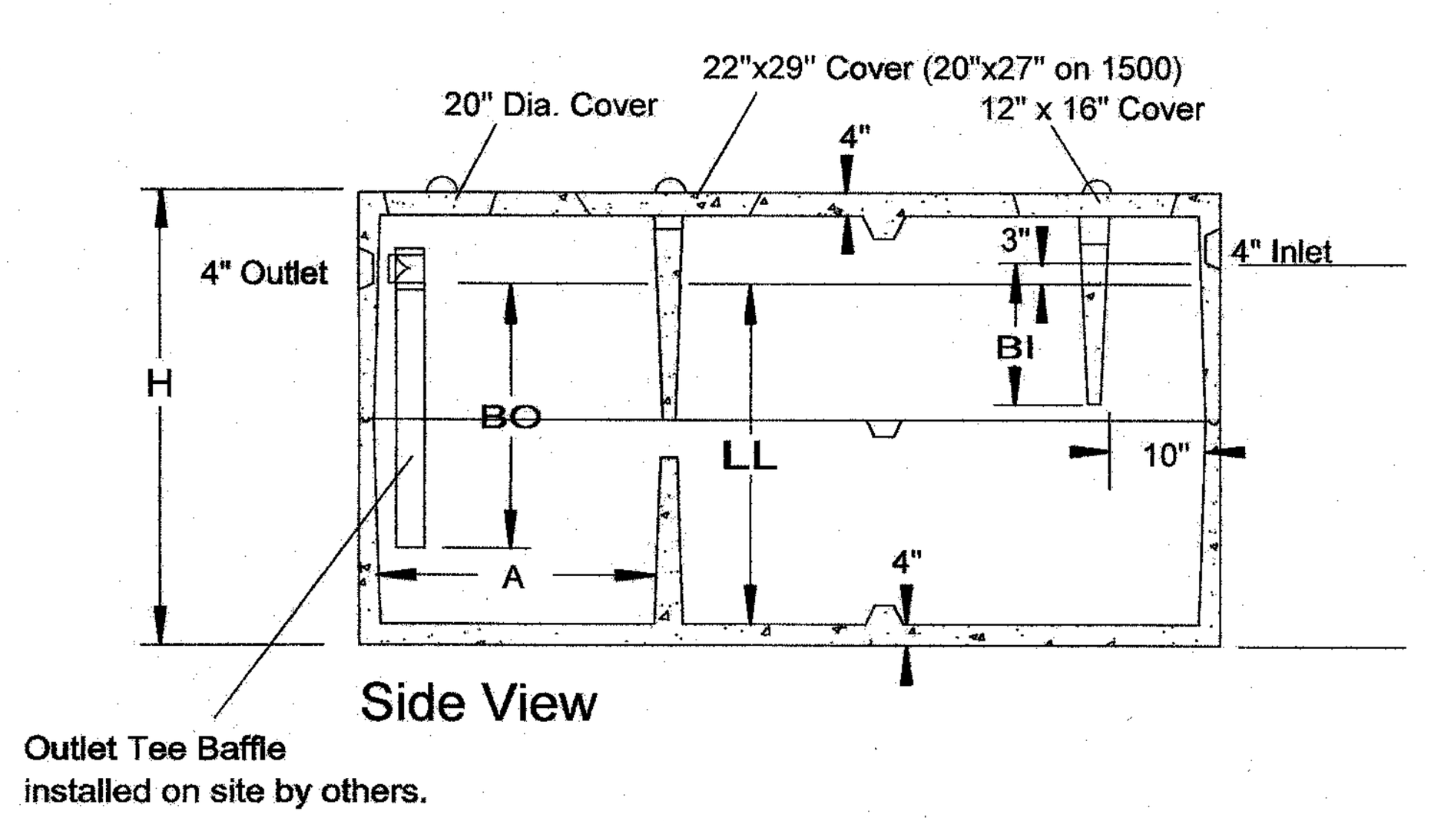
SANITARY SEWER TRENCH & PIPE BEDDING DETAIL

N.T.S.



Dimensions:

SIZE	CAT.#	H	Inlet	LL	BI	BO	L	W	A
2000 Gal.	GT-2000	68"	56"	49"	17"	37"	12'	6'-6"	43"



SPECIFICATIONS	PRECAST GREASE TRAPS 1500 TO 3000 GALLONS
Concrete Min. Strength: 4,000 psi at 28 days Reinforcement: #3 Rebar, 6x6x10/10 WWM Air Entrainment: 6% Construction Joint: Butyl Rubber Sealant Pipe Connection: Polylok Seal (patented) Load Rating: 300 psf	Woodard's Concrete Products, Inc. 629 Lybolt Road, Bullville, NY 10915 (845) 361-3471 / Fax 361-1050 Page 8C 7/18/14

2,000 GALLON GREASE TRAP (F.O.G. INTERCEPTOR)

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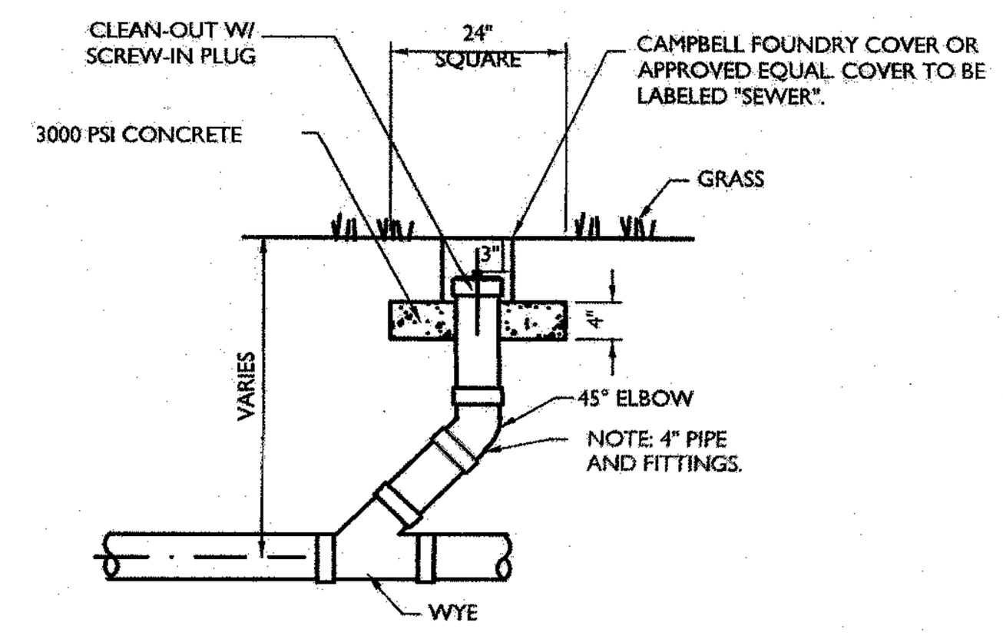
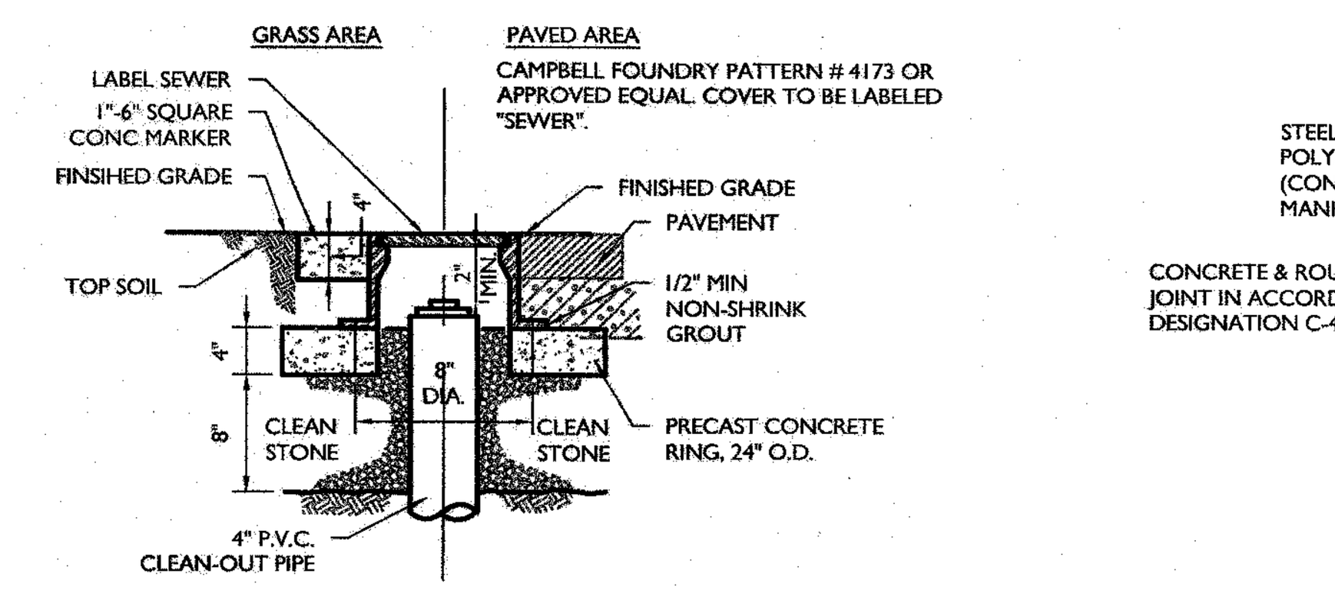


SANITARY SEWER CLEANOUT INLINE

N.T.S.

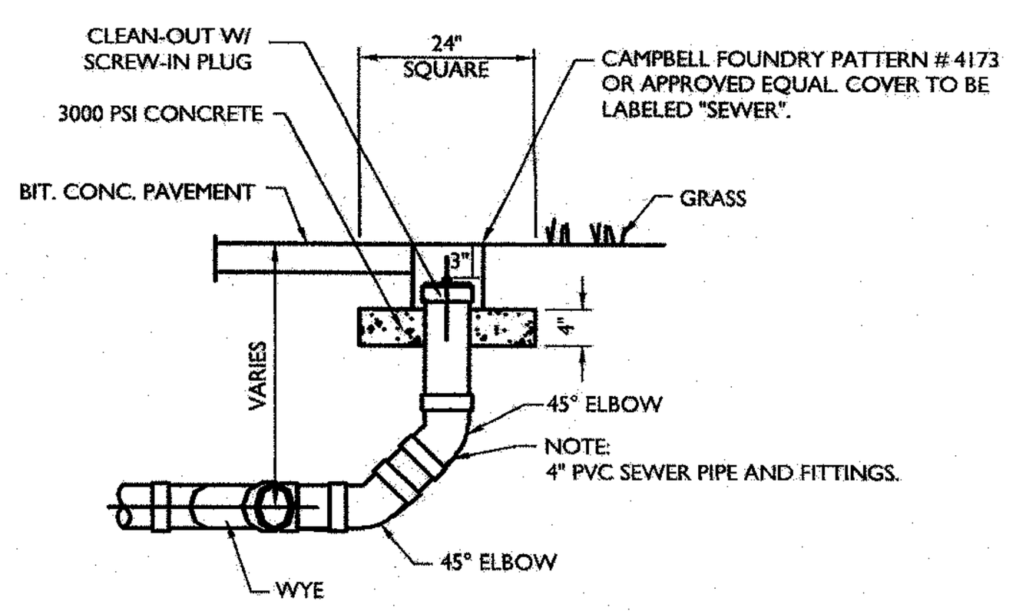
NOTE:
1. PIPE AND FITTINGS AS MANUFACTURED BY ADS OR APPROVED EQUAL.



NOTE:
1. ALL P.V.C. CLEAN-OUTS TO HAVE FRAME AND COVER

CLEAN-OUT PROTECTION BOX

N.T.S.



SANITARY SEWER CLEANOUT AT BEND

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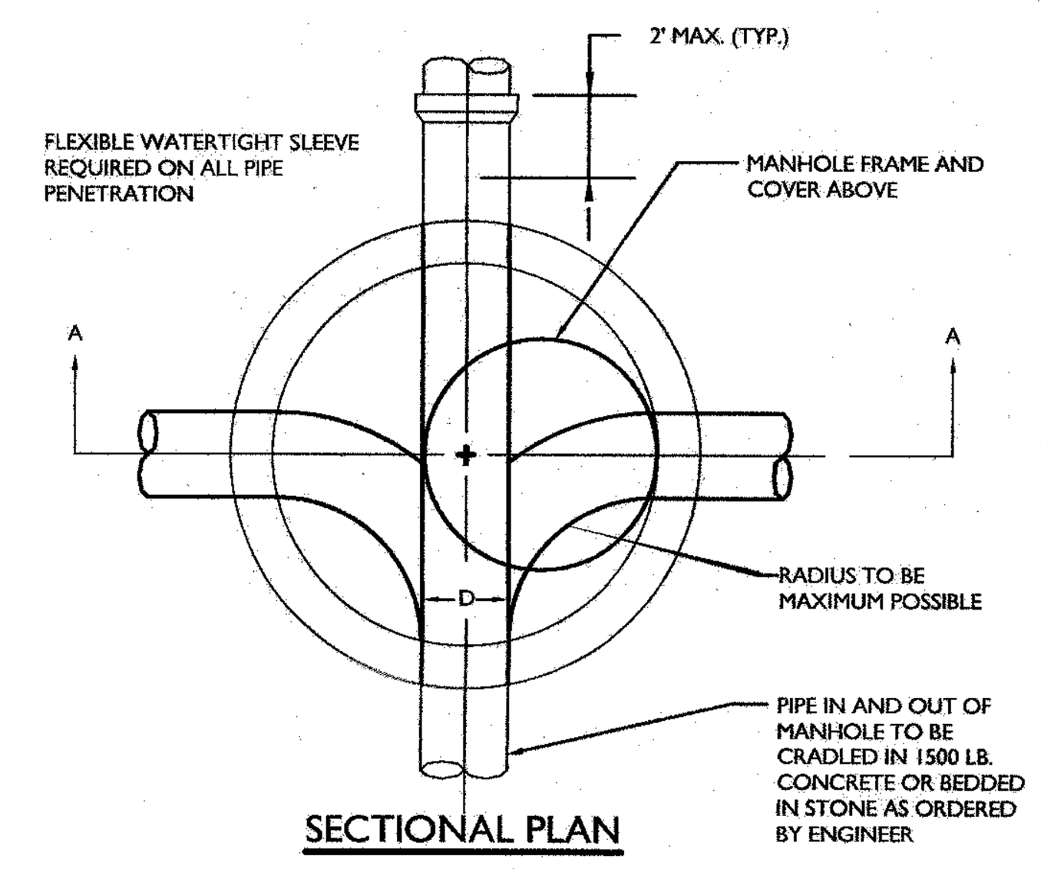
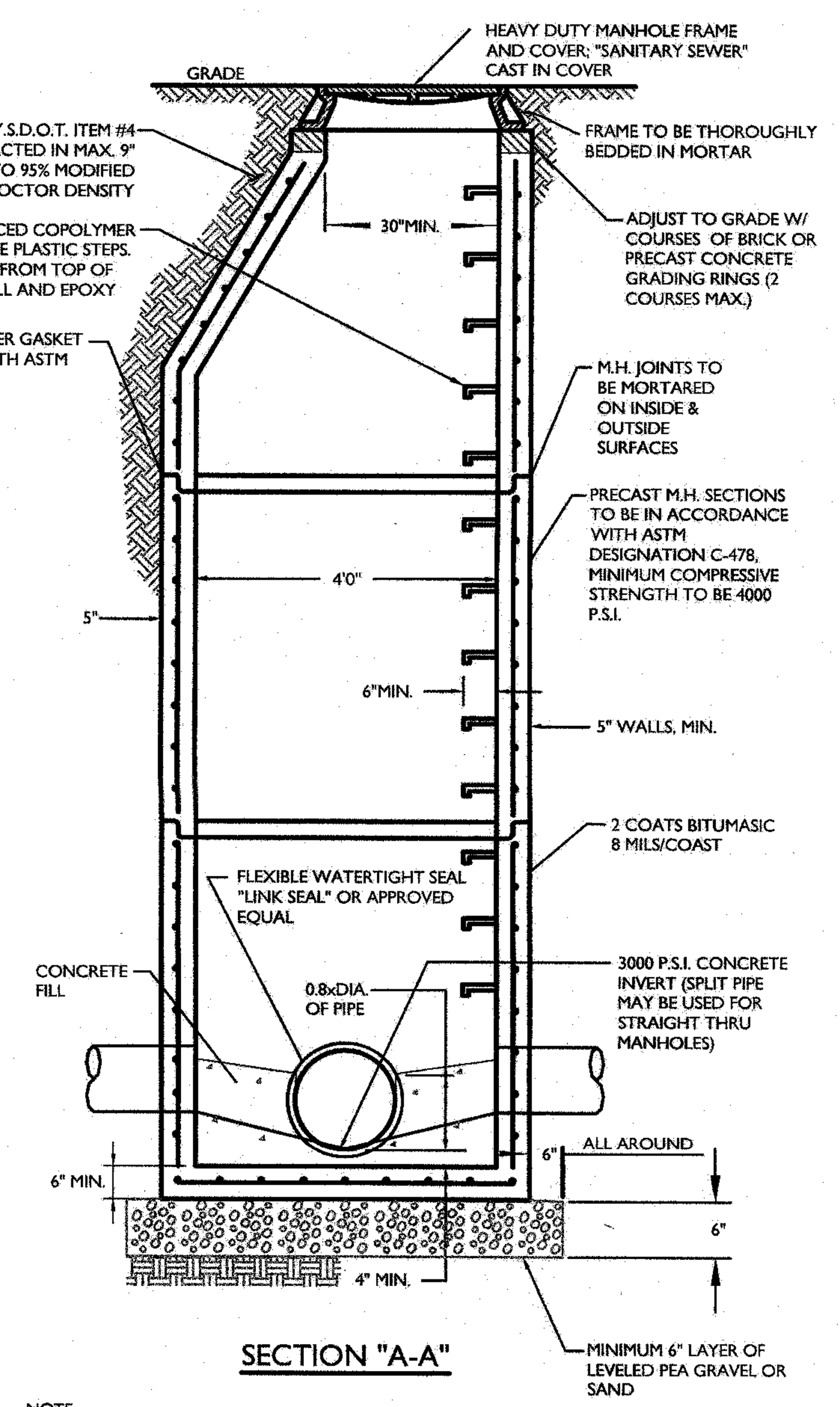


SECTIONAL PLAN



SECTION "A-A"

NOTE:
ALL MANHOLES ARE TO BE CAPABLE OF H-20 LIVE LOADING

PRECAST STANDARD SEWER MANHOLE DETAIL

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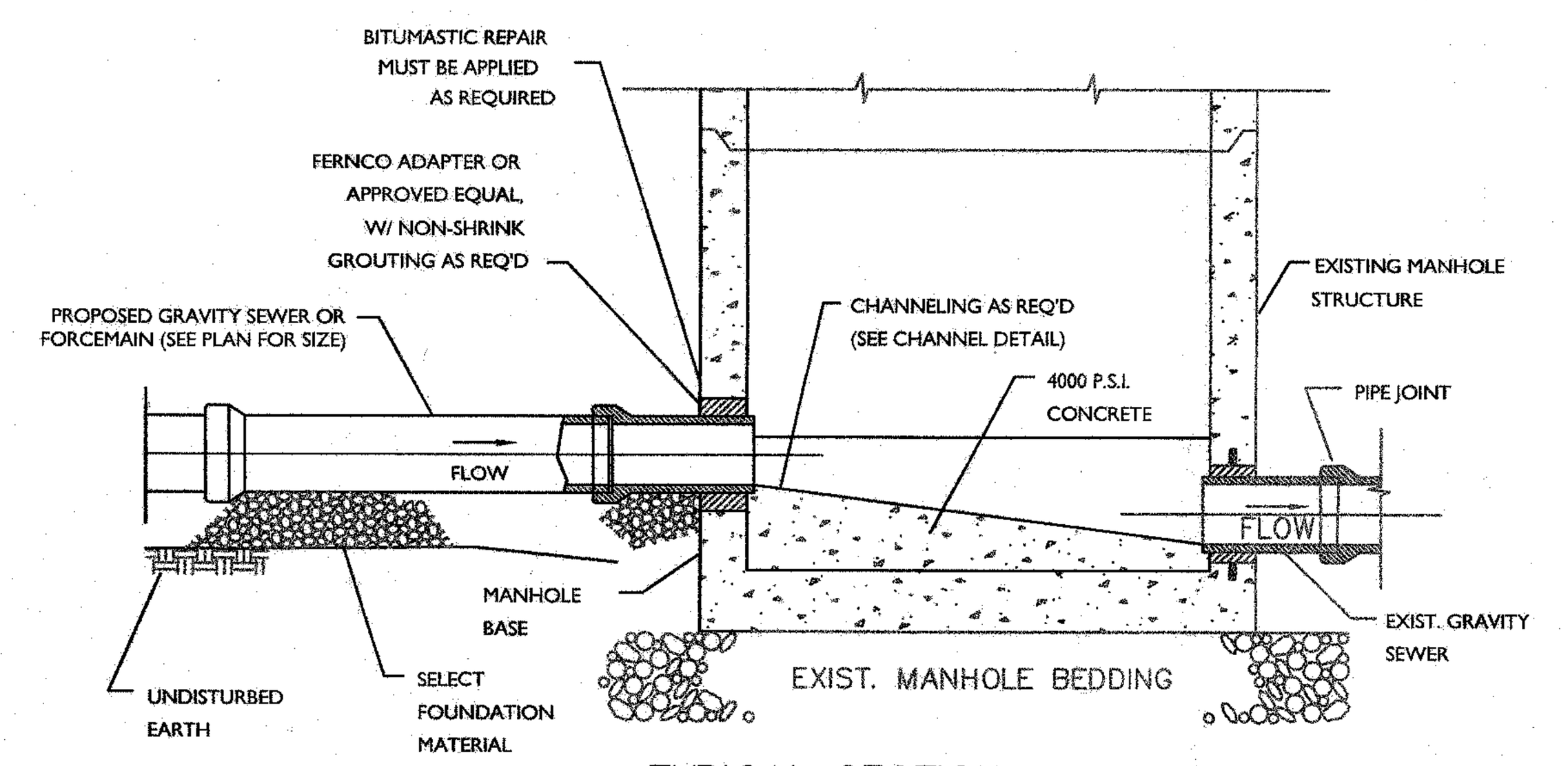


TYPICAL SECTION

CONSTRUCTION NOTES:

1. GRAVITY SEWER AND/OR FORCEMAINS SHALL ENTER A MANHOLE NO HIGHER THAN TWO (2) FEET ABOVE THE FLOW LINE OF THE RECEIVING MANHOLE. THE FOLLOWING SHALL BE ADHERED TO DURING CONSTRUCTION:

   A.) THE DISCHARGE SHOULD BE TO THE BOTTOM OF THE MANHOLE, IN LINE WITH THE FLOW IF POSSIBLE.
   B.) WHERE PIPING IS INSTALLED TO BRING THE DISCHARGE TO THE BOTTOM OF THE MANHOLE, IT SHOULD BE ADEQUATELY BRACED TO PREVENT MOVEMENT, AND VENTED ON THE TOP. ACCESS SHOULD BE PROVIDED TO THE FORCE MAIN FOR CLEANING PURPOSES.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING OPERATION OF THE EXISTING SEWERS CONNECTED TO THE EXISTING MANHOLE. AT NO TIME SHALL THE CONSTRUCTION OF THE NEW SEWER MAIN IMPEDE THE OPERATION OF THE EXISTING SANITARY SEWERS.

3. WHERE NEW PIPE IS TO BE CONNECTED INTO AN EXISTING MANHOLE, THE CONTRACTOR SHALL CORE DRILL ALL HOLES INTO MANHOLE AND SHALL PERFORM ALL CUTTING AND PATCHING NECESSARY FOR CHANNEL AND BENCH RECONSTRUCTION TO CHANNEL FLOW INTO EXISTING SEWER.

   PIPE SHALL BE SEALED USING FERNCO MANHOLE ADAPTERS OR EQUAL, AND NON-SHRINK GROUT.

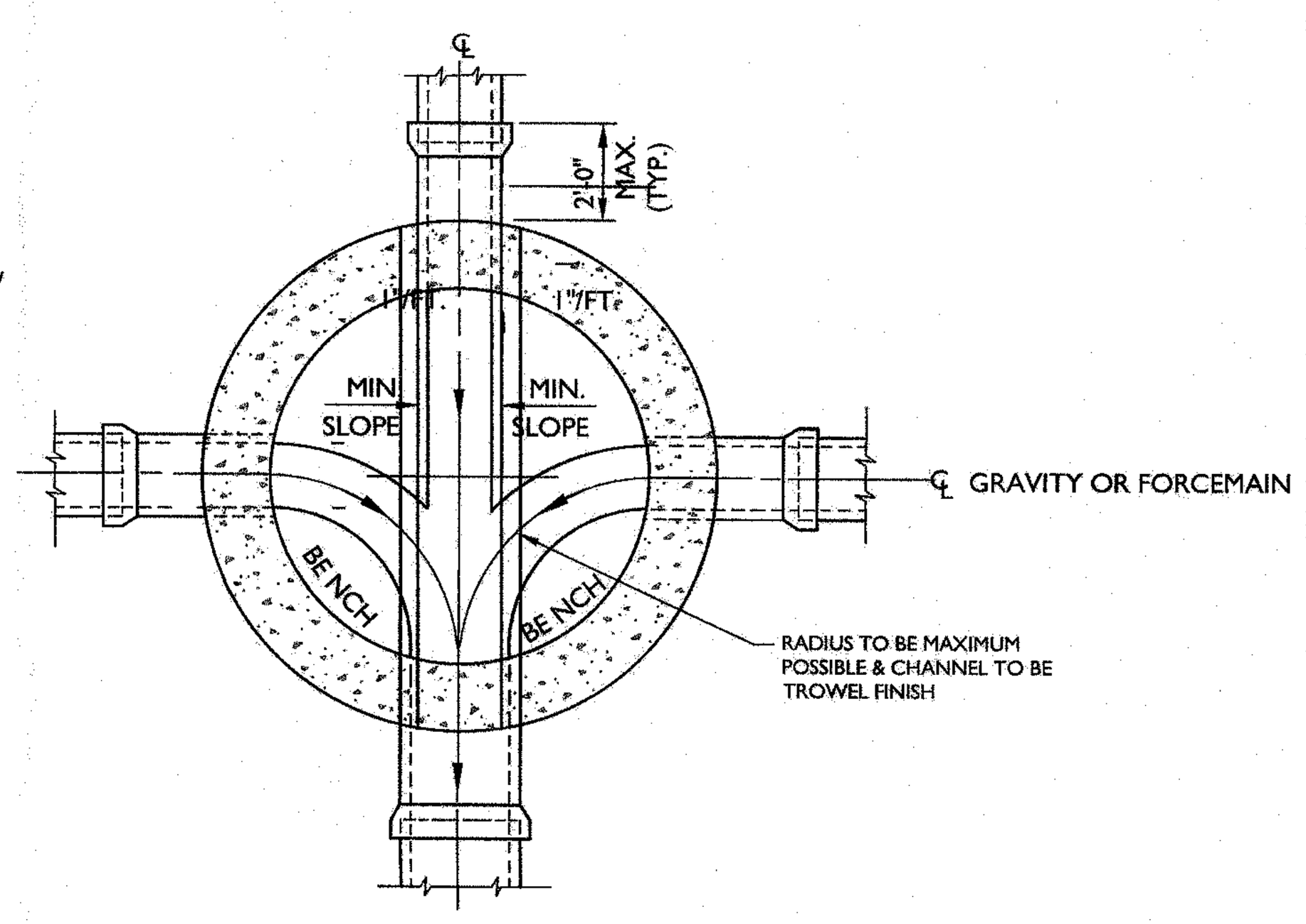
   EXISTING BENCH SHALL BE CHIPPED AND CUT AWAY TO ALLOW FOR NEW CHANNEL TO BE CONSTRUCTED AND TO PROVIDE A GOOD, SOUND SURFACE FOR BONDING WITH NEW CONCRETE CHANNEL AND BENCH.

   ALL LOOSE CONCRETE, RUST OF REINFORCING RODS, AND OTHER FOREIGN MATERIALS SHALL BE REMOVED AND THE CAVITY CLEANED WITH WATER OR AIR UNDER PRESSURE, AS NECESSARY. APPLY EPOXY BONDING AGENT PRIOR TO POURING CONCRETE.

   THE CONCRETE USED TO CONSTRUCT BENCHES AND CHANNELS SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 P.S.I.

4. ANY DAMAGE TO THE EXISTING MANHOLE CAUSED BY THE CONSTRUCTION OPERATIONS SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.

5. CONNECTION TO EXISTING MANHOLES SHALL BE DONE WITH A CORE DRILL.



PLAN

SEWER CONNECTION TO EXISTING MANHOLE DETAIL

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STATE OF NEW YORK ANDREW B. FETHERSTON 073555 LICENSED PROFESSIONAL ENGINEER
ANDREW B. FETHERSTON
NEW YORK LICENSED PROFESSIONAL ENGINEER - LICENSE NUMBER: 073555-1

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FOR

GDPBJ, LLC

SECTION 97
BLOCK 2
LOTS 27.32, 44, 45 & 46.2

TOWN OF NEWBURGH
ORANGE COUNTY
NEW YORK STATE

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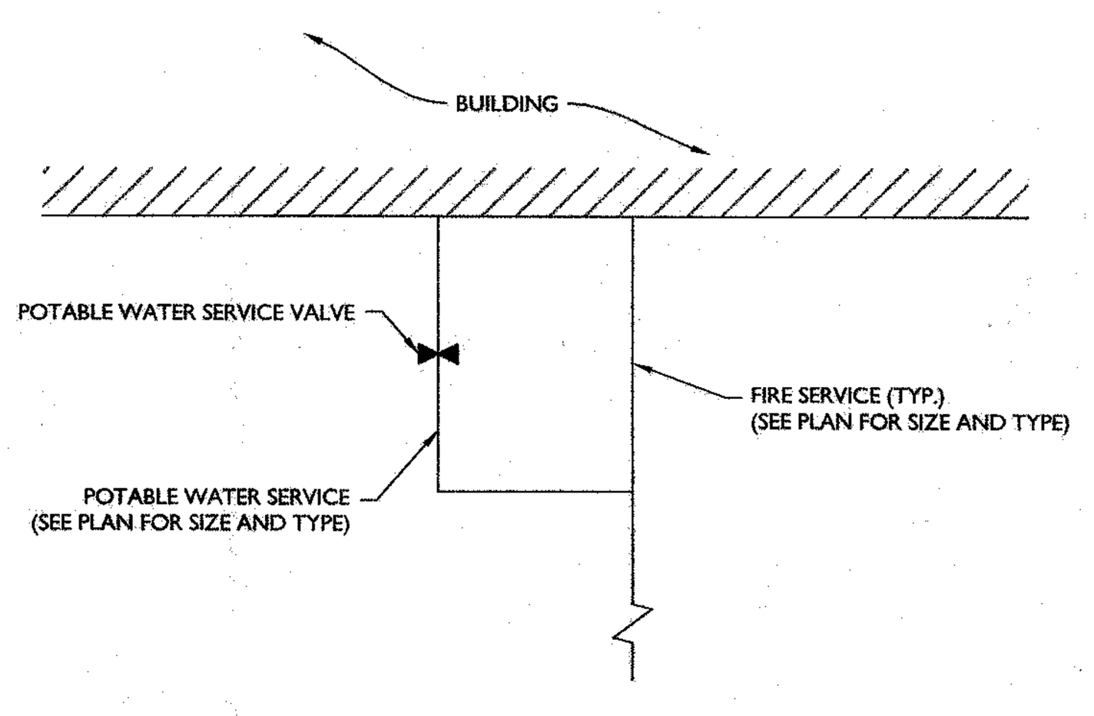
SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	05/24/19	CDR	ABF
PROJECT NUMBER: 18000471A	DRAWING NAME: C-DTLS		

SHEET TITLE: CONSTRUCTION DETAILS



WATER SERVICE BUILDING CONNECTION DETAIL

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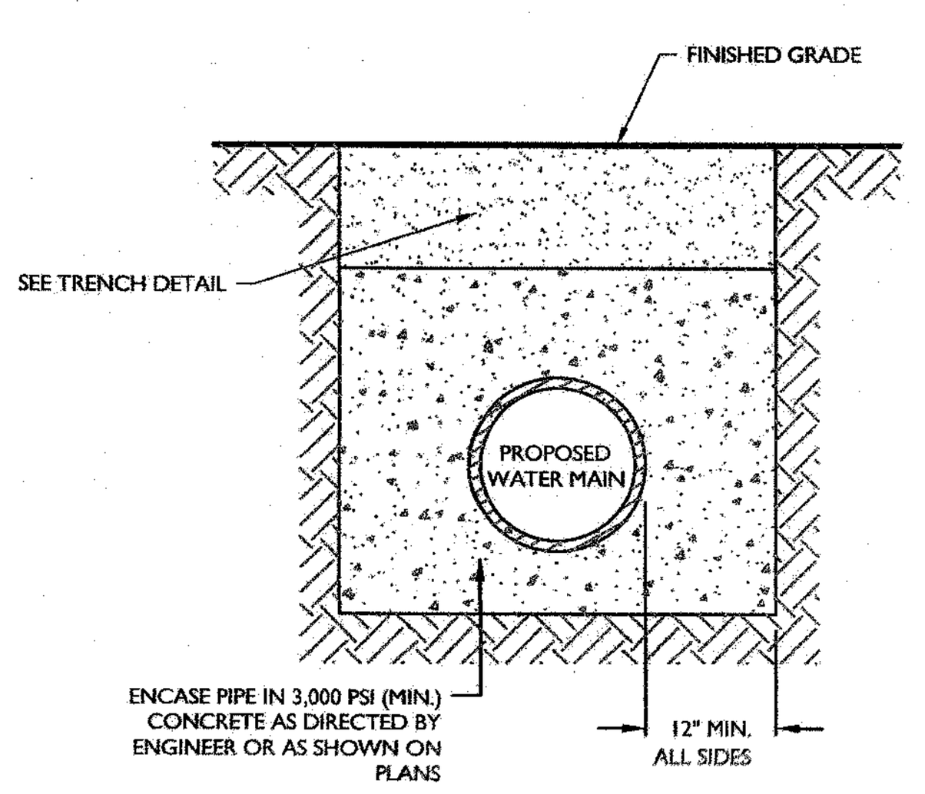
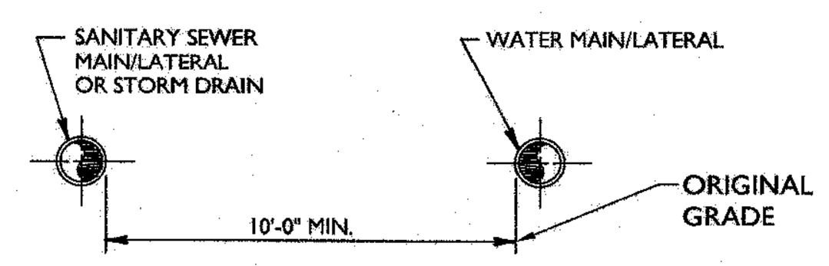


NOTE:
IF 18" MINIMUM VERTICAL SEPARATION CANNOT BE MET FROM SANITARY OR STORM SEWER THIS DETAIL IS APPLICABLE AND SHOULD BE INSTALLED AS DIRECTED BY THE ENGINEER.

WATER MAIN ENCASEMENT DETAIL

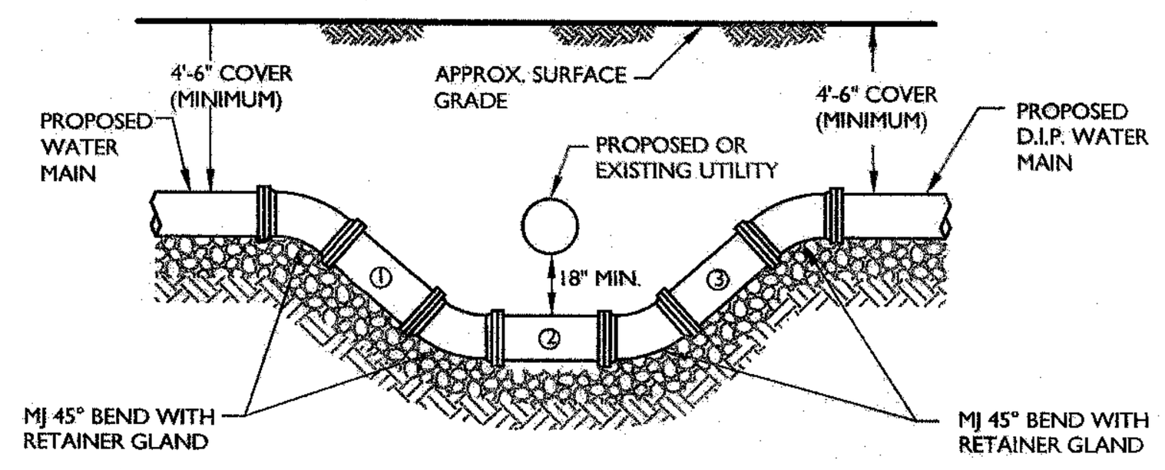
N.T.S.



NOTE:
1. NO DEVIATION IN THE SEPARATION REQUIREMENTS WILL BE PERMITTED WITHOUT THE EXPRESS APPROVAL OF THE DEPARTMENT OF HEALTH.

SANITARY/STORM SEWER-WATER SERVICE SEPARATION DETAIL

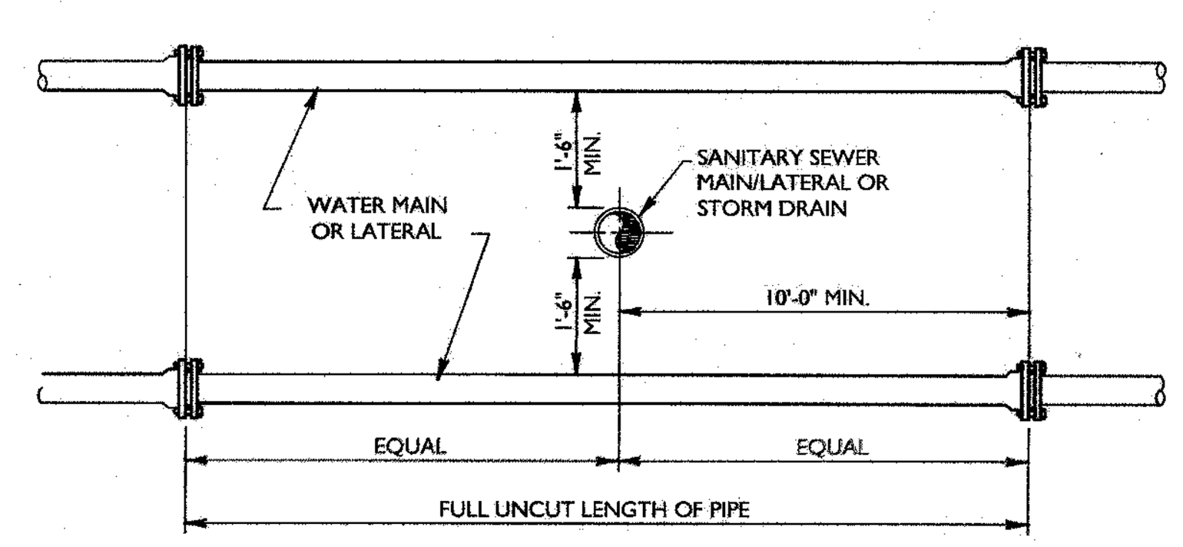
N.T.S.



NOTES:
1. WHEN THE ELEVATION OF THE SEWER CAN NOT BE VARIED TO MEET THE ABOVE REQUIREMENTS, THE WATERMAIN SHALL BE RELOCATED TO PROVIDE THIS REQUIRED SEPARATION OR RECONSTRUCTED WITH MECHANICAL JOINT PIPE FOR A DISTANCE OF TEN (10) FEET ON EACH SIDE OF THE SEWER. ONE FULL, UNCUT LENGTH OF WATERMAIN SHALL BE CENTERED OVER THE SEWER SO THAT BOTH JOINTS WILL BE AS FAR AWAY FROM THE SEWER AS POSSIBLE.
2. WHEN IT IS IMPOSSIBLE TO OBTAIN VERTICAL SEPARATION AS STIPULATED ABOVE, THE WATERMAIN SHALL BE ENCASED IN CONCRETE AS SHOWN ON THE WATER MAIN ENCASEMENT DETAIL.
3. SEE WATER NOTE #6 FOR RESTRAINST AT BENDS

UTILITY CROSSING DETAIL

N.T.S.



VERTICAL SEPARATION

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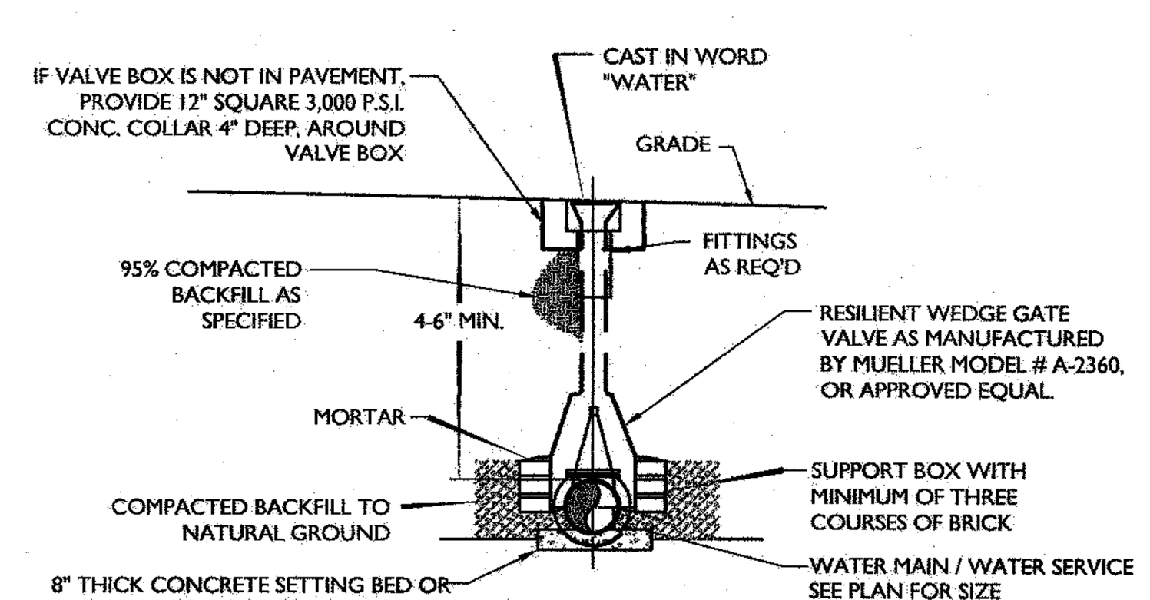
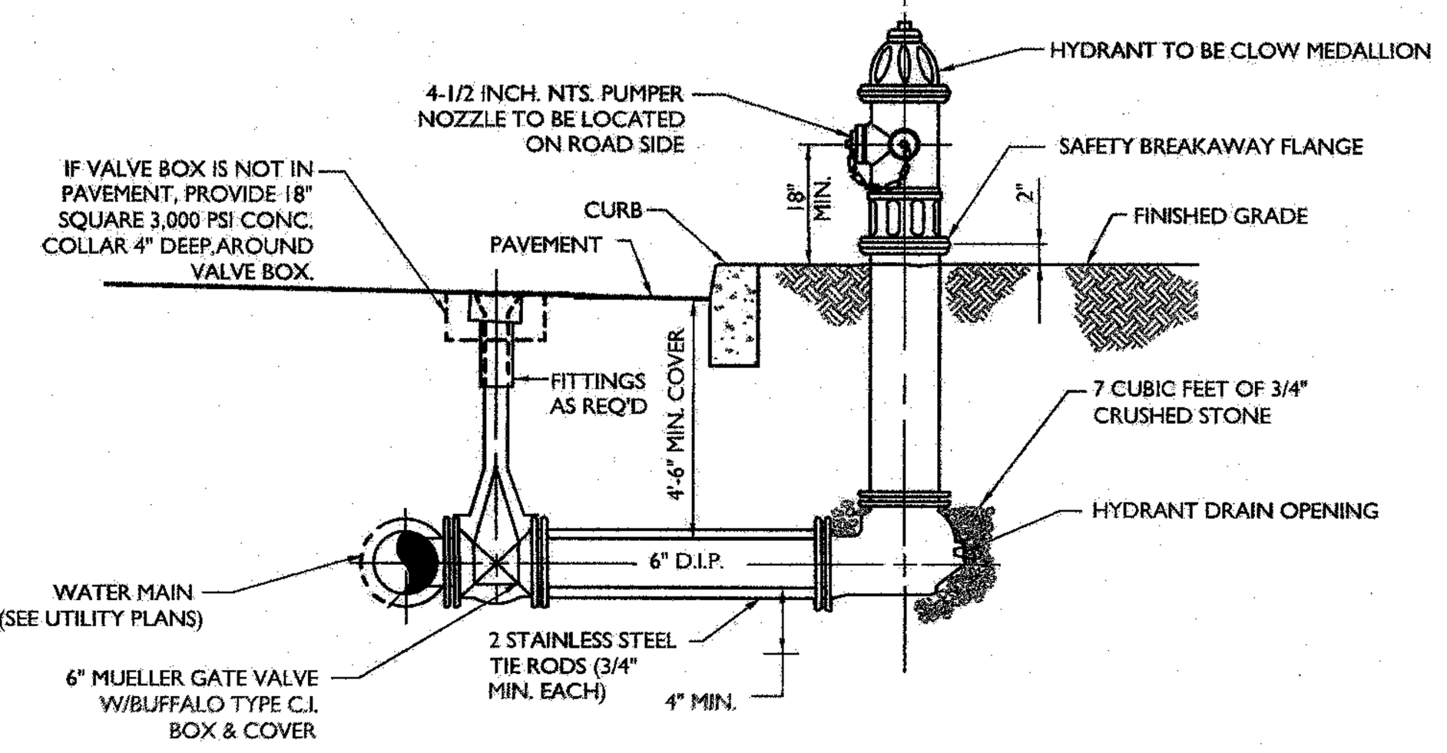


NOTE:
1. VALVE BOX SHOULD HAVE EXTENSION IF WATER MAIN OR SERVICE IS PLACED DEEPER THAN 5 FEET.
2. MAIN LINE VALVES TO BE SPACED NO FARTHER THAN 500 FEET APART IN COMMERCIAL DISTRICTS.

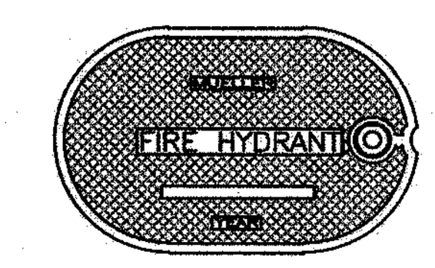
VALVE BOX DETAIL

N.T.S.

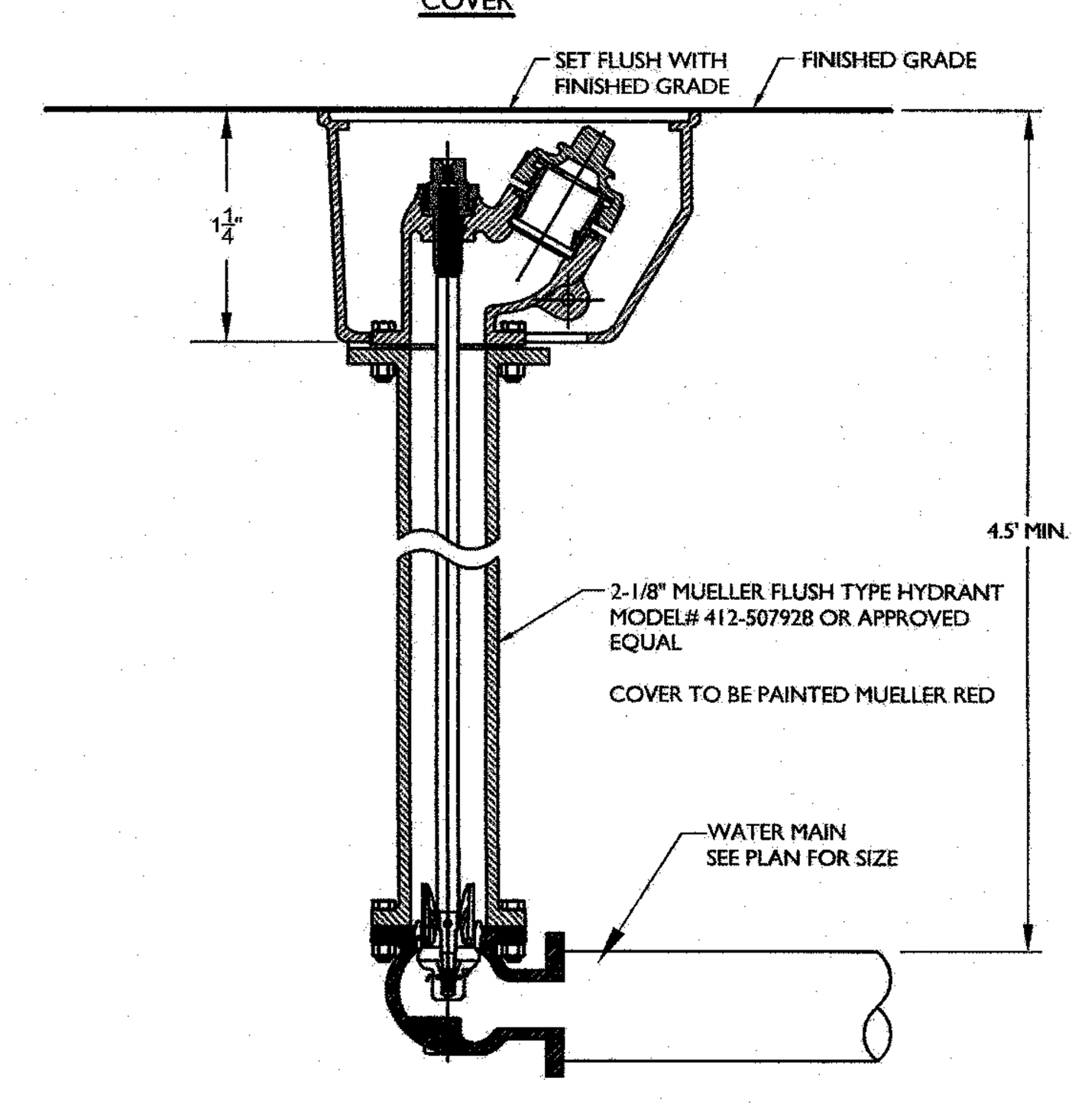


FIRE HYDRANT DETAIL

N.T.S.



COVER



BLOW-OFF/FLUSHING HYDRANT DETAIL

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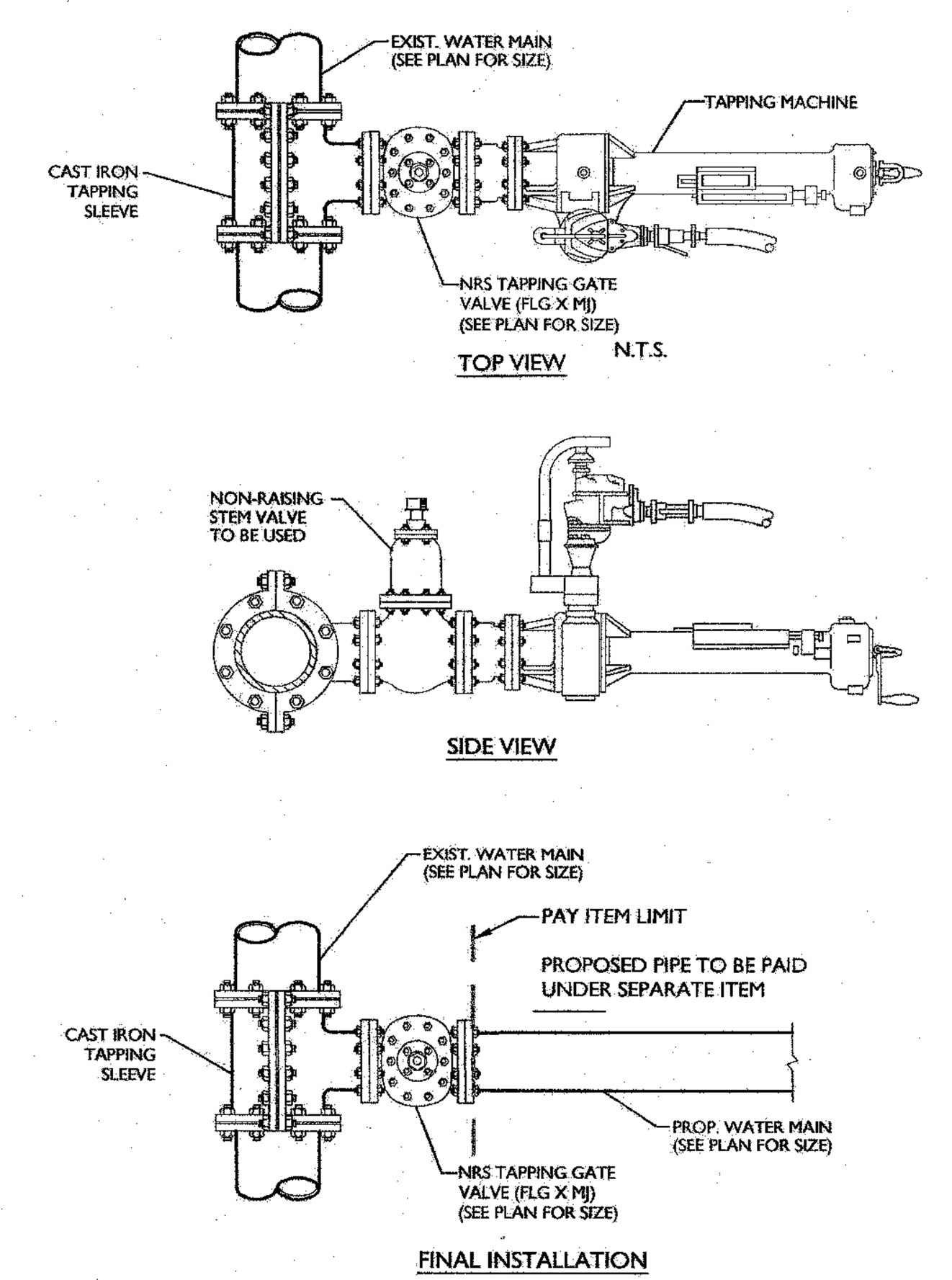
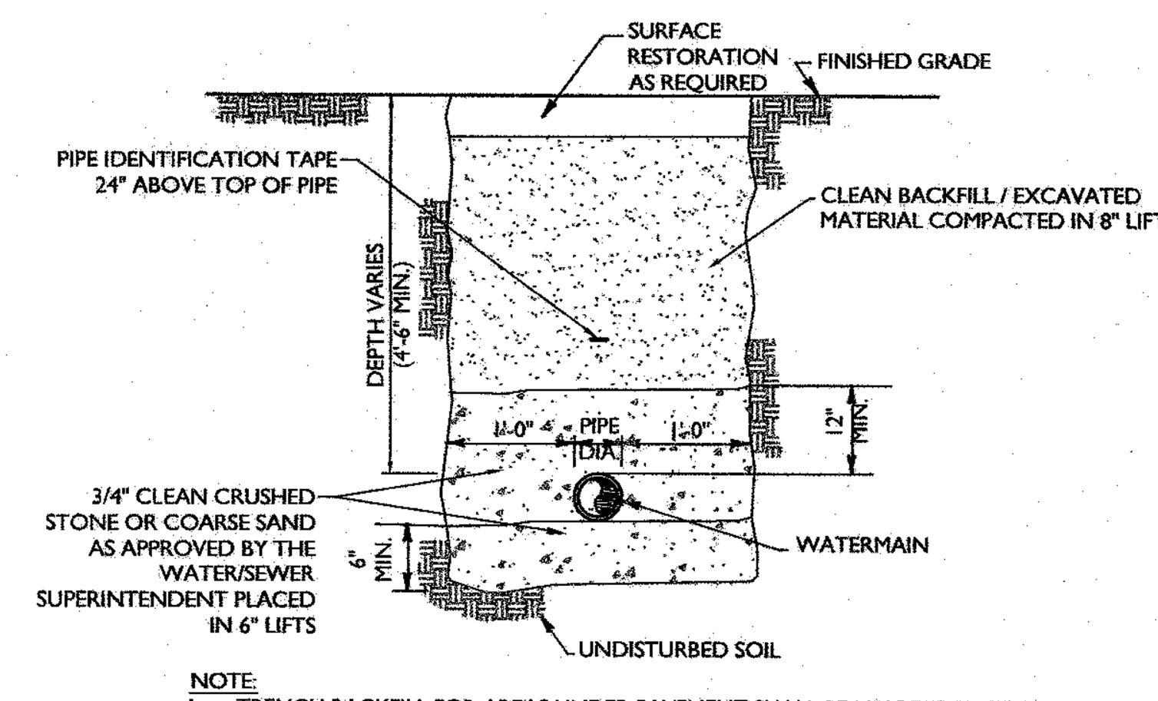


NOTES:
1. WET TAP VALVE CAN BE INSTALLED IN EITHER VERTICAL OR HORIZONTAL POSITION.
2. CONTRACTOR SHALL VERIFY DEPTH OF BURY, MATERIAL, DIAMETER (O.D.) AND OPERATING PRESSURE OF EXISTING WATER MAIN PRIOR TO ORDERING OF WET TAP UNIT.

WET TAP DETAIL

N.T.S.



NOTE:
1. TRENCH BACKFILL FOR AREAS UNDER PAVEMENT SHALL BE N.Y.S.D.O.T. ITEM 4 IN 9" MAX. LIFTS AND COMPACTED TO 95% MODIFIED PROCTOR.

WATER MAIN TRENCH DETAIL

PIPE SIZE IN INCHES	90° TEE OR DEAD END PLUG	45°	22 1/2°
4	30'	10'	5'
6	40'	10'	5'
8	50'	15'	5'
10	60'	20'	5'
12	70'	20'	5'
14	80'	25'	5'
16	80'	25'	5'

NOTES:
1. LENGTH OF PIPE TO BE RESTRAINED IS FOR EACH SIDE OF BEND
2. USE OF MECHANICAL JOINT RETAINER GLANDS SHALL PROVIDE A THRUST RESTRAINT SYSTEM. NO THRUST BLOCKS SHALL BE USED.
3. LENGTHS ARE BASED ON THE FOLLOWING CRITERIA : 150 P.S.I. MAXIMUM PRESSURE AND 3'-6" 0F COVER. TABLE IS FOR USE WITH C.I./D.I.P. ONLY. IF TEST CONDITIONS ARE MORE SEVERE OR LARGER PIPES ARE PROPOSED, THEN SPECIAL COMPUTATIONS MUST BE PROVIDED BY LICENSED PROFESSIONAL ENGINEER IN THE STATE OF NEW YORK.

JOINT RESTRAINT SCHEDULE

WATER NOTES:

1. ALL METHODS, MATERIALS, FITTINGS, DEVICES, DIMENSIONAL REQUIREMENTS AND PROCEDURES NECESSARY TO COMPLETE THE WORK SHOWN HEREON SHALL MEET THE APPROPRIATE CURRENT AWWA SPECIFICATIONS IN EFFECT AS WELL AS ALL REQUIREMENTS DEEMED APPLICABLE BY THE MUNICIPALITY OR ANY OTHER GOVERNMENTAL BODY HAVING JURISDICTION OVER SAID WORK.
2. ALL WATER MAIN PIPE SHALL BE AWWA C151/A21.51-02 THICKNESS CLASS FIFTY-TWO (52) CEMENT LINED DUCTILE IRON PUSH-ON (RUBBER GASKET) TYPE; AND INSTALLED WITH TWO (2) BRONZE WEDGES PER JOINT. JOINT INSTALLATION SHALL BE "TYPE 2" AS PRESCRIBED IN THE LATEST REVISION OF AWWA C600. MECHANICAL JOINTS SHALL HAVE RETAINER GLANDS.
3. ALL PIPE FITTINGS SHALL BE IN ACCORDANCE WITH THE LATEST REVISION OF THE AWWA SPECIFICATION C153/A21.53-00.
4. ALL GATE VALVES SHALL BE "MUELLER" OR APPROVED EQUAL, RESILIANT-SEATED GATE VALVES WITH MECHANICAL JOINT CONNECTIONS. OPENING SHALL BE LEFT (CCW) AND OPERATION SHALL BE BY 2" SQUARE WRENCH NUT. MINIMUM WORKING PRESSURE SHALL BE 250 PSI. GATE VALVES ARE TO BE IN ACCORDANCE WITH LATEST REVISION OF AWWA SPECIFICATION C509.
5. ALL VALVE BOXES SHALL BE TWO-PIECE SLIDING BUFFALO TYPE SET ON CONCRETE OR BLOCK POSITIONED PERPENDICULAR TO THE PIPE AND ON COMPACTED BACKFILL.
6. ALL CHANGES IN PIPE LINE DIRECTION, BOTH HORIZONTAL AND VERTICAL SHALL BE TIE-RODDED AND THRUST BLOCKED WITH CONCRETE AGAINST UNDISTURBED EARTH AS DIRECTED BY THE ENGINEER.
7. FLUSH OUT ALL WATER MAINS AND APPURTENANCES AS DIRECTED BY THE MUNICIPALITY UNTIL THE WATER RUNS CLEAN AND FREE OF RUST AND DIRT. PRESSURIZE ALL LINES AND APPURTENANCES FOR FORTY-EIGHT (48) HOURS, OR AS DIRECTED BY THE MUNICIPALITY, TO REVEAL ANY LEAKS OR BROKEN PIPE. THIS SHALL ALL BE DONE EITHER AS A TOTAL PROJECT OR BETWEEN VALVED SECTIONS AS DIRECTED BY THE TOWN. IF PRESSURE TESTING REVEALS ANY LEAKS OR DIFFICULTIES THE CONTRACTOR SHALL PROMPTLY UNCOVER THE LEAK OR BROKEN PIPE AND IMMEDIATELY REPAIR AND RETEST SAME. THIS SHALL BE REPEATED AS MANY TIMES AS MAY BE REQUIRED TO DEMONSTRATE A TIGHT LINE TO THE SATISFACTION OF THE TOWN. THE NEW WATER MAIN AND APPURTENANCES SHALL BE PRESSURE TESTED IN ACCORDANCE WITH THE LATEST REVISION OF AWWA C-600. RESULTS OF TESTS ARE TO BE SUBMITTED AND ACCEPTED BY THE MUNICIPALITY.
8. THE MUNICIPAL ENGINEER MUST BE NOTIFIED FORTY-EIGHT (48) HOURS PRIOR TO PRESSURE TESTING.
9. ALL WATER LINES AND APPURTENANCES SHALL BE DISINFECTED TO THE SATISFACTION OF THE MUNICIPALITY, AND IN ACCORDANCE WITH THE STANDARDS OF THE DEPT. OF HEALTH. THIS SHALL ALSO BE DONE IN ACCORDANCE WITH THE LATEST REVISION OF AWWA C651-14 (SECTION 5).
10. WATER SERVICE CROSSING SEWER OR STORM SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18" BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF THE SEWER OR STORM. THIS SHALL BE THE CASE WHERE THE WATER MAIN IS EITHER ABOVE OR BELOW THE SEWER. AT CROSSINGS, ONE FULL LENGTH OF WATER PIPE SHALL BE LOCATED SO BOTH JOINTS WILL BE AS FAR FROM THE SEWER OR STORM AS POSSIBLE. SPECIAL STRUCTURAL SUPPORT FOR THE WATER AND SEWER MAY BE REQUIRED.
11. WATER SERVICE SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED SEWER MAIN OR SERVICE.
12. WATER TIGHT PLUGS ARE TO BE INSTALLED IN THE ENDS OF PIPES WHEN WORK IS NOT IN PROGRESS.
13. LEAKAGE AND HYDROSTATIC PRESSURE TESTING SHALL BE PERFORMED AT 1.5 TIMES THE WORKING PRESSURE OF THE MAIN, BUT IN NO CASE SHALL IT BE LESS THAN 150 PSI.
14. THE MAXIMUM DEFLECTION ALLOWED AT PIPE JOINTS SHALL BE LIMITED TO 80% OF THAT ALLOWED BY AWWA OR IN ACCORDANCE WITH THE MUNICIPALITY. FOR AWWA ALLOWABLE JOINT DEFLECTIONS SEE LATEST REVISION OF AWWA SPECIFICATION C600.
15. CONSTRUCTION MUST CONFORM TO ALL ORDINANCES.
16. CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF EXISTING WATER AND OTHER UTILITIES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
17. CONTRACTOR TO CALL UNDERGROUND MARK-OUT PRIOR TO COMMENCEMENT OF CONSTRUCTION AT 1-800-962-7962 FOR COMPLETE UTILITIES MARK-OUT.
18. CONTRACTOR TO CONTACT EACH MUNICIPALITYS WATER DEPARTMENT AT LEAST 2 DAYS PRIOR TO CONSTRUCTION.
19. ALL IMPROVEMENTS SHALL BE INSPECTED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW YORK AND CERTIFICATION SHALL BE PROVIDED TO THE MUNICIPALITY THAT THE SUBJECT IMPROVEMENTS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PLANS.
20. CONTRACTOR TO NOTIFY ENGINEER OF ANY DEVIATION FROM THE HORIZONTAL OR VERTICAL ALIGNMENTS WITH REGARDS TO EXISTING UTILITIES.
21. A CERTIFIED AS BUILT MAP OF THE WATER SYSTEM IMPROVEMENTS SHALL BE PROVIDED TO THE MUNICIPALITY'S WATER DEPARTMENT BY A LICENSED DESIGN PROFESSIONAL.

TOWN OF NEWBURGH WATER NOTES:

1. CONSTRUCTION OF SANITARY SEWER FACILITIES AND CONNECTION TO THE TOWN OF NEWBURGH SANITARY SEWER SYSTEM REQUIRES A PERMIT FROM THE TOWN OF NEWBURGH SEWER DEPARTMENT. ALL CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF THE NYSDEC AND THE TOWN OF NEWBURGH.
2. ALL SEWER PIPE INSTALLATION SHALL BE SUBJECT TO INSPECTION BY THE TOWN OF NEWBURGH SEWER DEPARTMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL INSPECTIONS AS REQUIRED WITH THE TOWN OF NEWBURGH SEWER DEPARTMENT.
3. ALL GRAVITY SANITARY SEWER SERVICE LINES SHALL BE 4 INCHES IN DIAMETER OR LARGER AND SHALL BE SDR-35 PVC PIPE CONFORMING TO ASTM D-3034-89. JOINTS SHALL BE PUSH-ON WITH ELASTOMERIC RING GASKET CONFORMING ASTM D-3212. FITTINGS SHALL BE AS MANUFACTURED BY THE PIPE SUPPLIER OR EQUAL AND SHALL HAVE A BELL AND SPIGOT CONFIGURATION COMPATIBLE WITH THE PIPE.
4. THE SEWER MAIN SHALL BE TESTED IN ACCORDANCE WITH TOWN OF NEWBURGH REQUIREMENTS. ALL TESTING SHALL BE COORDINATED WITH THE TOWN OF NEWBURGH SEWER DEPARTMENT.
5. THE FINAL LAYOUT OF THE PROPOSED WATER AND/OR SEWER CONNECTION, INCLUDING ALL MATERIALS, SIZE AND LOCATION OF SERVICE AND ALL APPURTENANCES, IS SUBJECT TO THE REVIEW AND APPROVAL OF THE TOWN OF NEWBURGH WATER AND/OR SEWER DEPARTMENT. NO PERMITS SHALL BE ISSUED FOR A WATER AND/OR SEWER CONNECTION UNTIL A FINAL LAYOUT IS APPROVED BY THE RESPECTIVE DEPARTMENT.

OCDOH
(SHEET 4 OF 4)

MASER CONSULTING P.A.
ANDREW B. FETHERSTON
NEW YORK LICENSED PROFESSIONAL ENGINEER - LICENSE NUMBER: 073555-1

BJ's WHOLESALE CLUB

FOR

GDPBJ, LLC

SECTION 97
BLOCK 2
LOTS 27.32, 44, 45 & 46.2

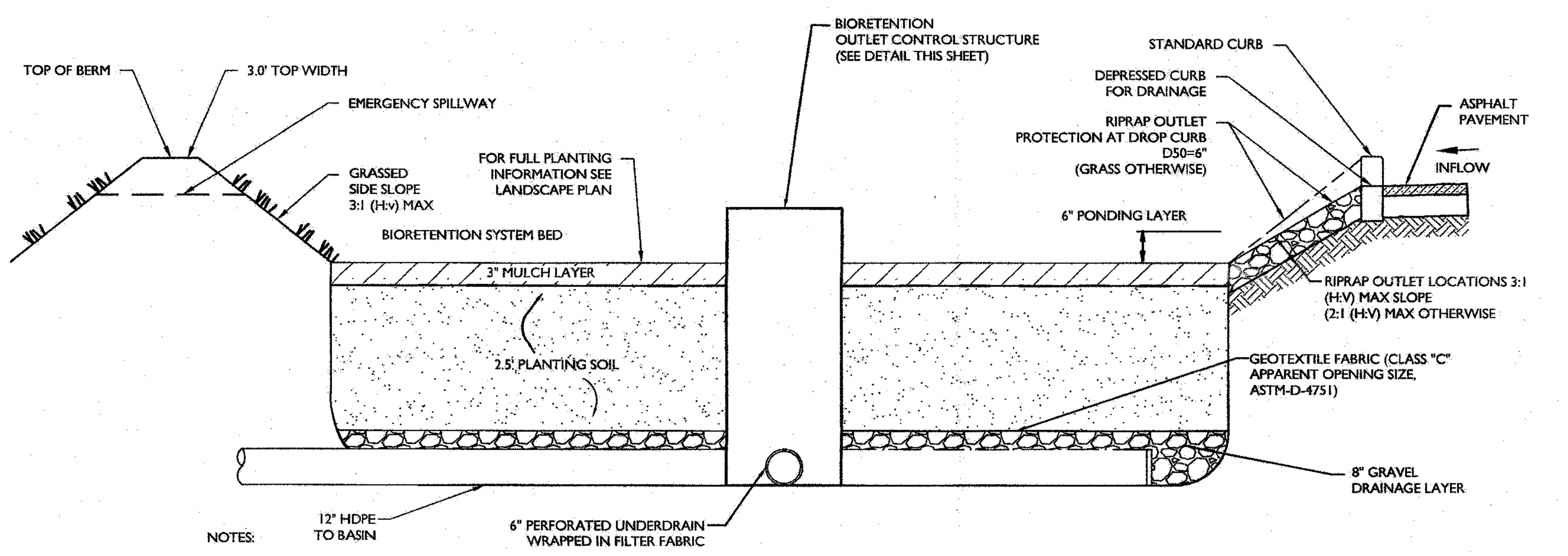
TOWN OF NEWBURGH
ORANGE COUNTY
NEW YORK STATE

NEW WINDSOR OFFICE
555 Hudson Valley Avenue
Suite 101
New Windsor, NY 12553
Phone: 845.564.4495
Fax: 845.567.1025

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	05/24/19	CDR	ABF

PROJECT NUMBER: 18000471A
DRAWING NAME: C-DTLS

SHEET TITLE: CONSTRUCTION DETAILS



NOTES:

1. SEE PLAN FOR DROP CURB LOCATIONS AND BIORETENTION AREA CONFIGURATION.
2. PLANTING SOIL TO BE IN ACCORDANCE WITH NEW YORK STATE STANDARDS AND SPECIFICATIONS FOUND WITHIN THE PROJECT SWPPP.

BIORETENTION ELEVATIONS

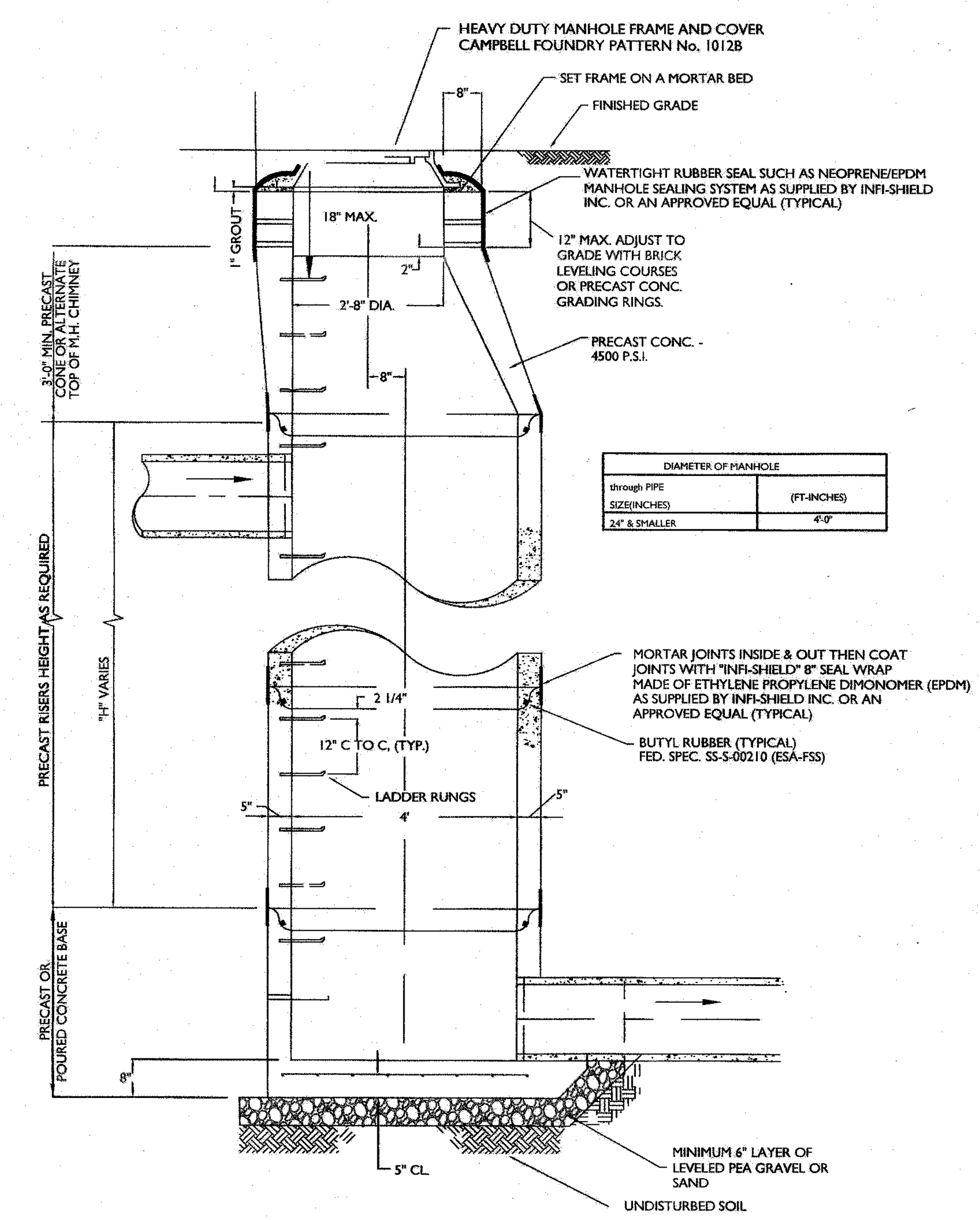
SYSTEM	OUTLET NAME	OUTLET SIZE	BED ELEVATION	100 YR PEAK ELEVATION	TOP OF BERM ELEVATION	EMERGENCY SPILLWAY EL.
BIO-A	OCS A	4'X4'	280.0	282.10	283.10	282.5

PLANTING SOIL NOTE:

THE PLANTING SOIL SHOULD BE A SANDY LOAM, LOAMY SAND, LOAM (USDA), OR A LOAM/SAND MIX (SHOULD CONTAIN A MINIMUM 35 TO 60% SAND, BY VOLUME). THE CLAY CONTENT FOR THESE SOILS SHOULD BE LESS THAN 25% BY VOLUME. SOILS SHOULD FALL WITHIN THE SM, OR ML CLASSIFICATIONS OD THE UNIFIED SOIL CLASSIFICATION SYSTEM (USCS). A PERMEABILITY OF AT LEAST 1.0 FEET PER DAY (0.5"/HR) IS REQUIRED (A CONSERVATIVE VALUE OF 0.5 FEET PER DAY IS USED FOR DESIGN). THE SOIL SHOULD BE FREE OF STONES, STUMPS, ROOTS, OR OTHER WOODY MATERIAL OVER 1" IN DIAMETER, AND BRUSH OR SEED FROM NOXIOUS WEEDS. PLACEMENT OF THE PLANTING SOIL SHOULD BE IN LIFTS OF 12" TO 18", LOOSELY COMPACTED (TAMPED LIGHTLY WITH A DOZER OR BACKHOE BUCKET). THE SPECIFIC CHARACTERISTICS ARE AS FOLLOWS:

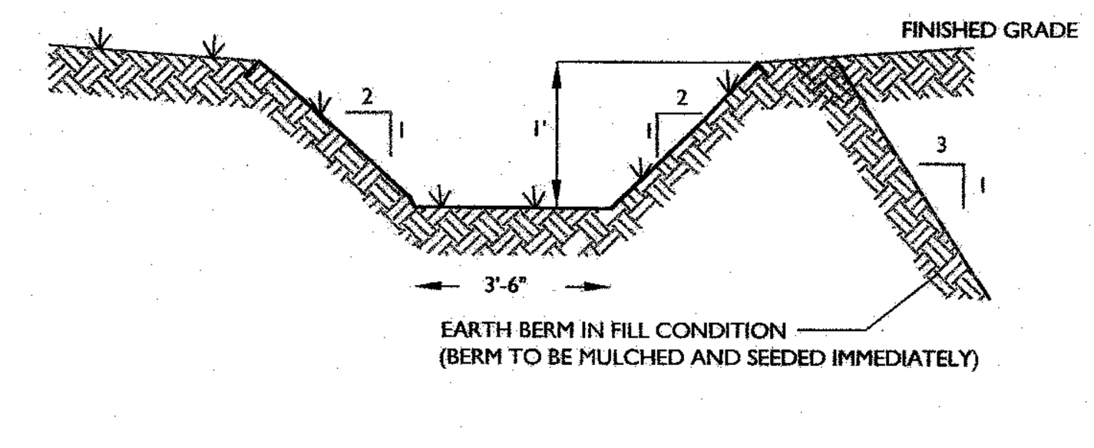
PARAMETER	VALUE
PH RANGE	5.2 TO 7.00
ORGANIC MATTER	1.5 TO 4.0%
MAGNESIUM	35 LBS. PER ACRE, MINIMUM
PHOSPHORUS (P_2O_5)	75 LBS. PER ACRE, MINIMUM
POTASSIUM (K_2O)	85 LBS. PER ACRE, MINIMUM
SOLUBLE SALTS	500 ppm
CLAY	10 TO 25%
SILT	30 TO 55%
SAND	35 TO 60%

BIORETENTION SYSTEM CROSS SECTION



PRECAST STORM DRAIN MANHOLE SECTION

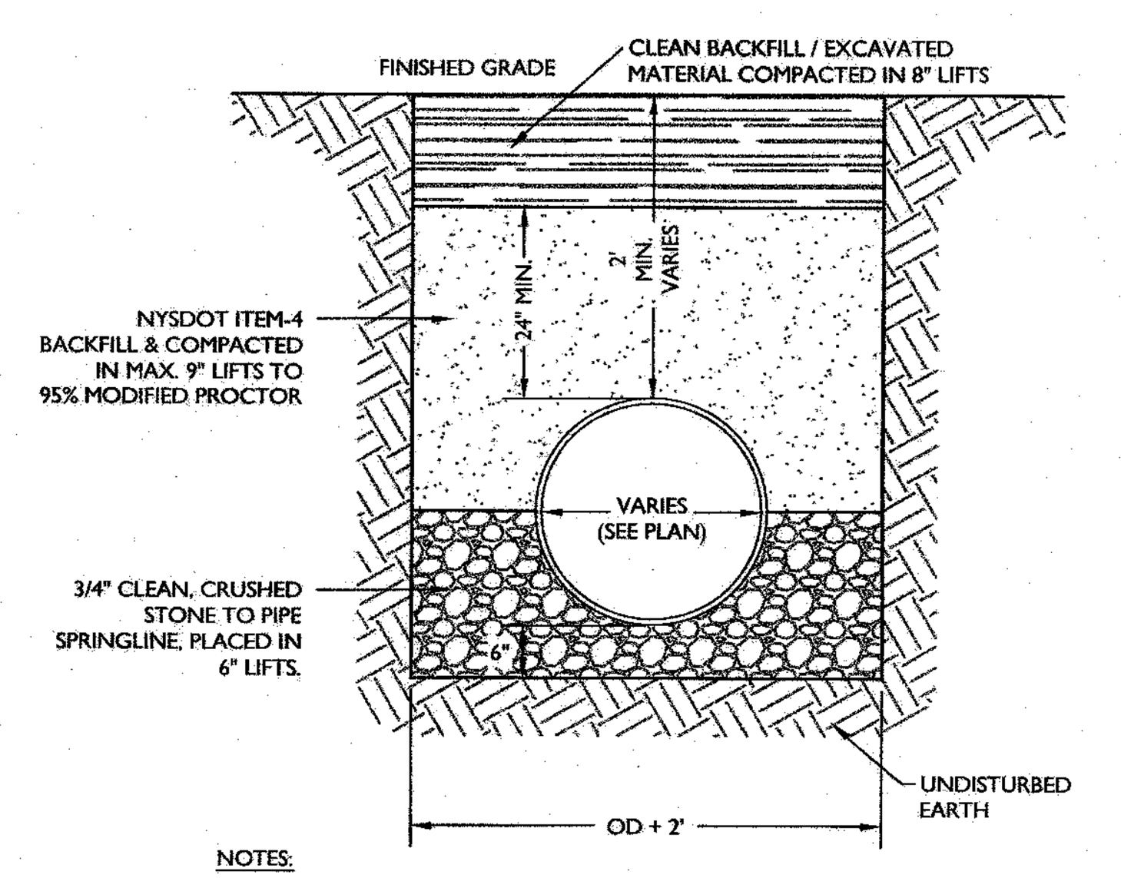
N.T.S.



THE WATERWAY SHALL BE STABILIZED WITH SOD, WITH SEEDING PROTECTED BY JUTE OR EXCELSIOR MATTING OR WITH SEEDING AND MULCHING INCLUDING TEMPORARY DIVERSION OF THE WATER UNTIL THE VEGETATION IS ESTABLISHED.

DRAINAGE SWALE DETAIL

N.T.S.

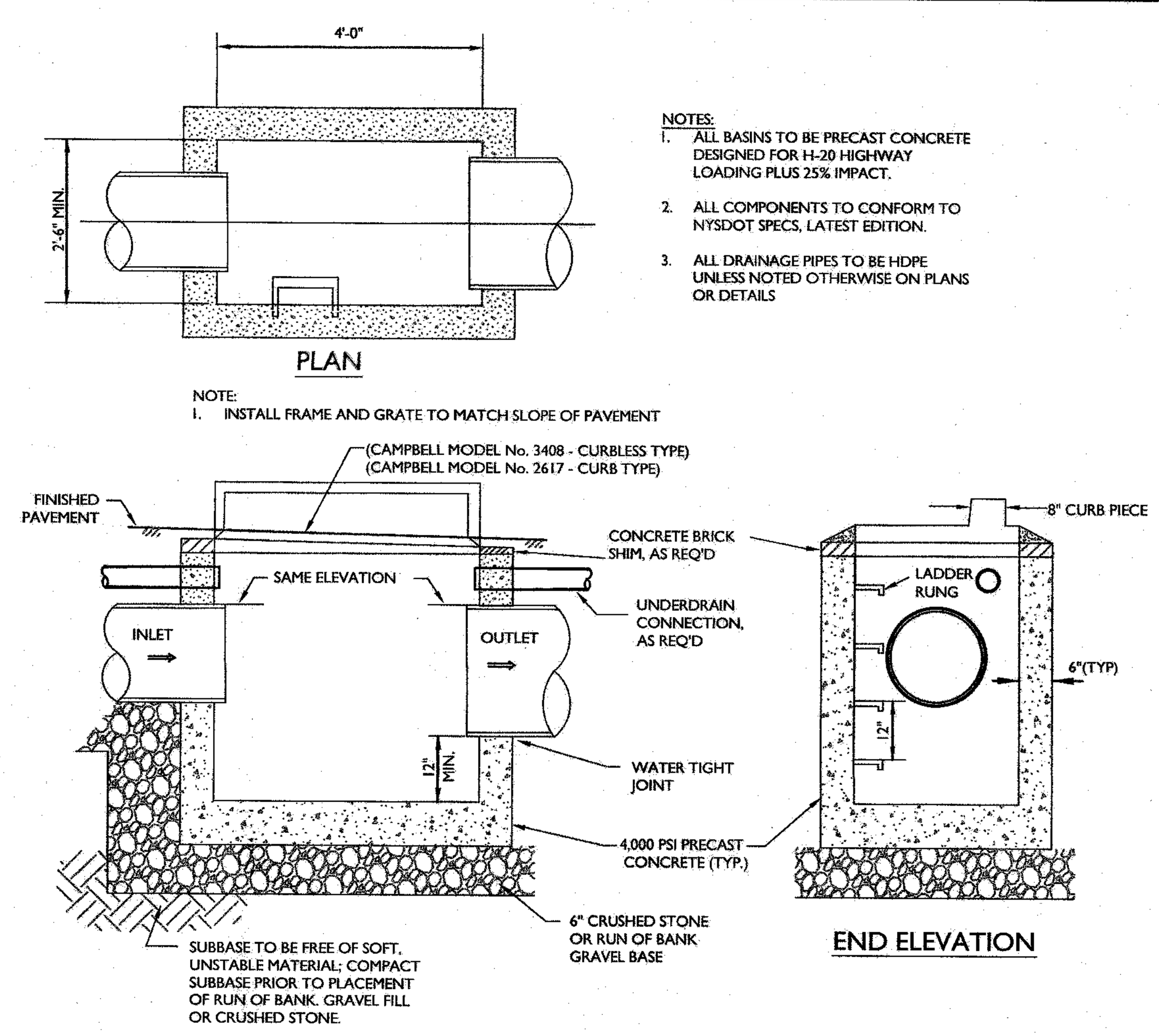


NOTES:

1. EXCAVATIONS IN EXISTING PAVED ROADWAYS SHALL BE COORDINATED WITH THE MUNICIPAL ENGINEER.
2. ALL EXCAVATION AND TRENCHING TO MEET OSHA REQUIREMENTS.

STORM DRAIN TRENCH & BEDDING

N.T.S.



NOTES:

1. ALL BASINS TO BE PRECAST CONCRETE DESIGNED FOR H-20 HIGHWAY LOADING PLUS 25% IMPACT.
2. ALL COMPONENTS TO CONFORM TO NYSDOT SPECS, LATEST EDITION.
3. ALL DRAINAGE PIPES TO BE HDPE UNLESS NOTED OTHERWISE ON PLANS OR DETAILS

NOTE:

1. INSTALL FRAME AND GRATE TO MATCH SLOPE OF PAVEMENT

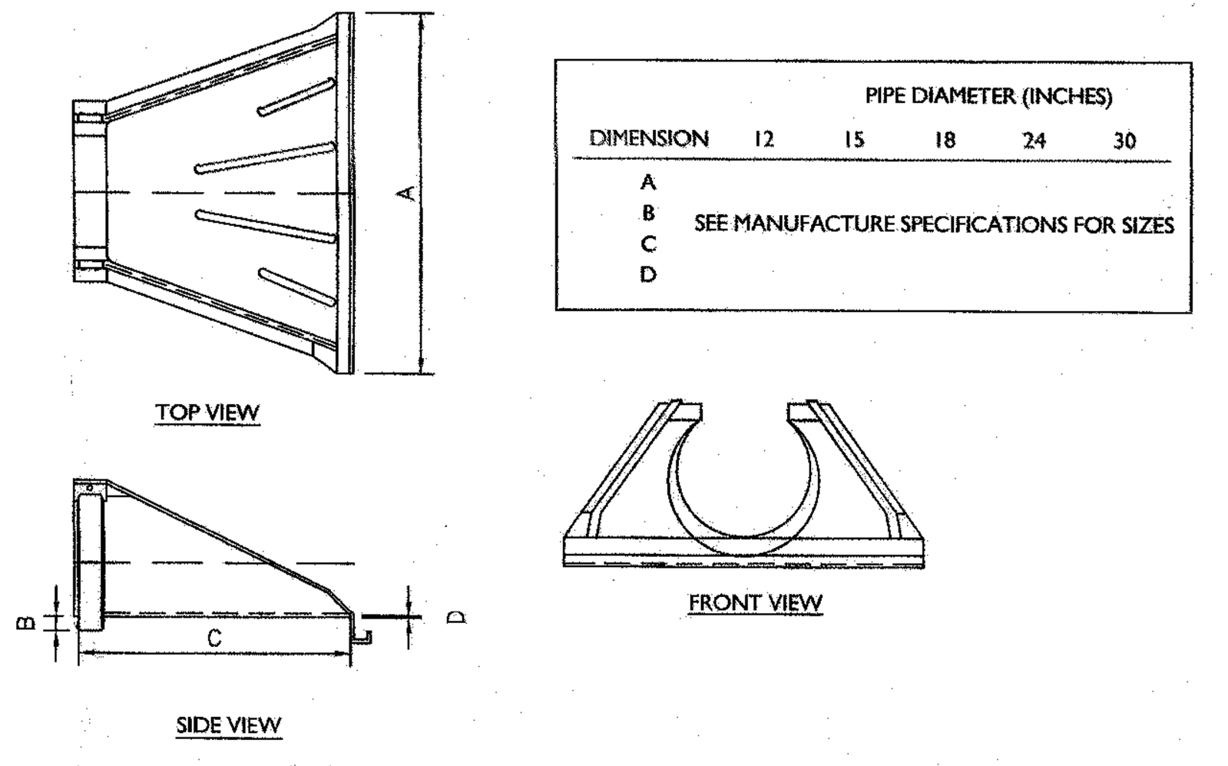
PLAN

FRONT ELEVATION

END ELEVATION

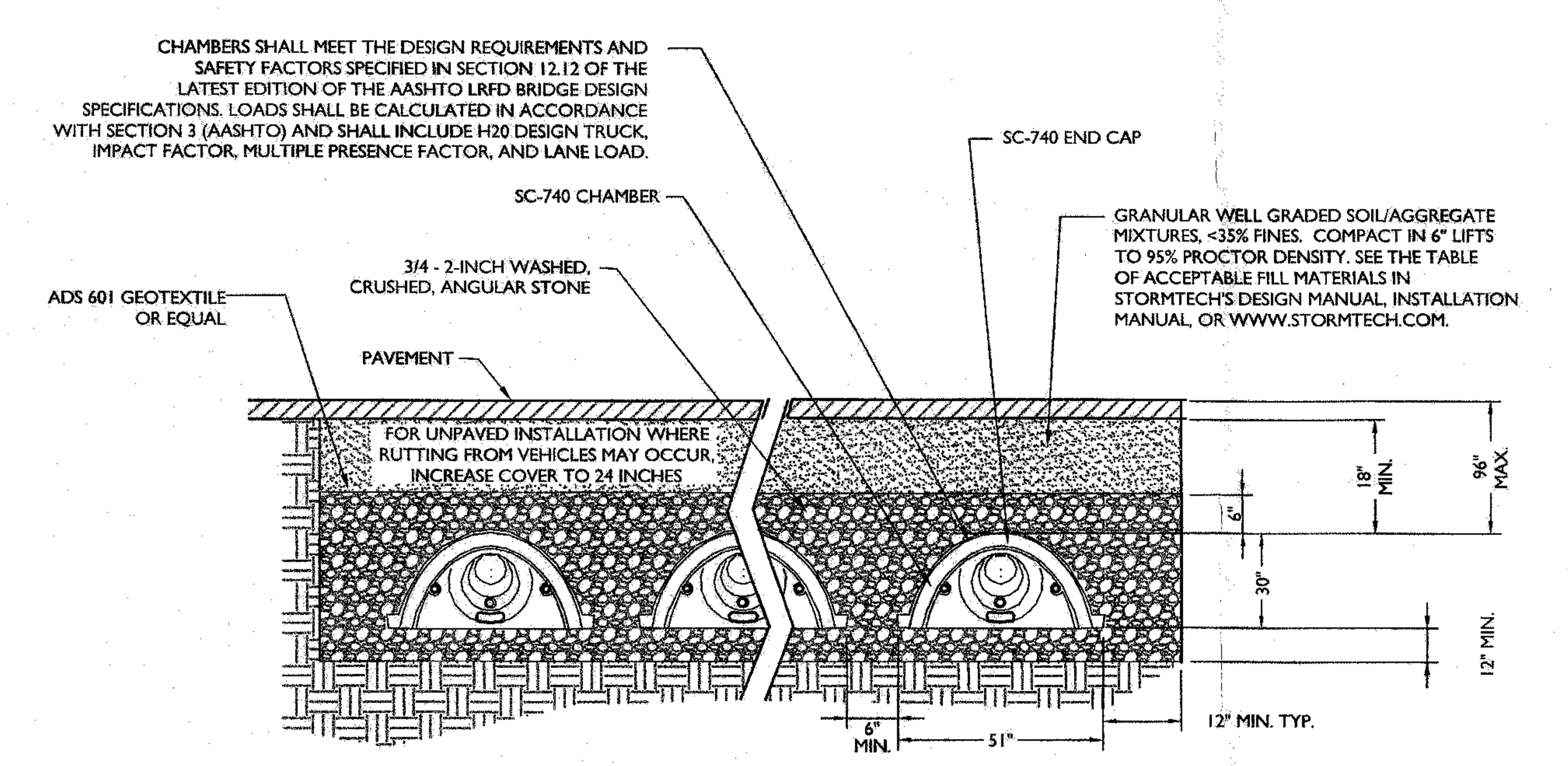
STANDARD CATCH BASIN DETAILS

N.T.S



CORRUGATED POLYETHYLENE FLARED END SECTION

N.T.S.

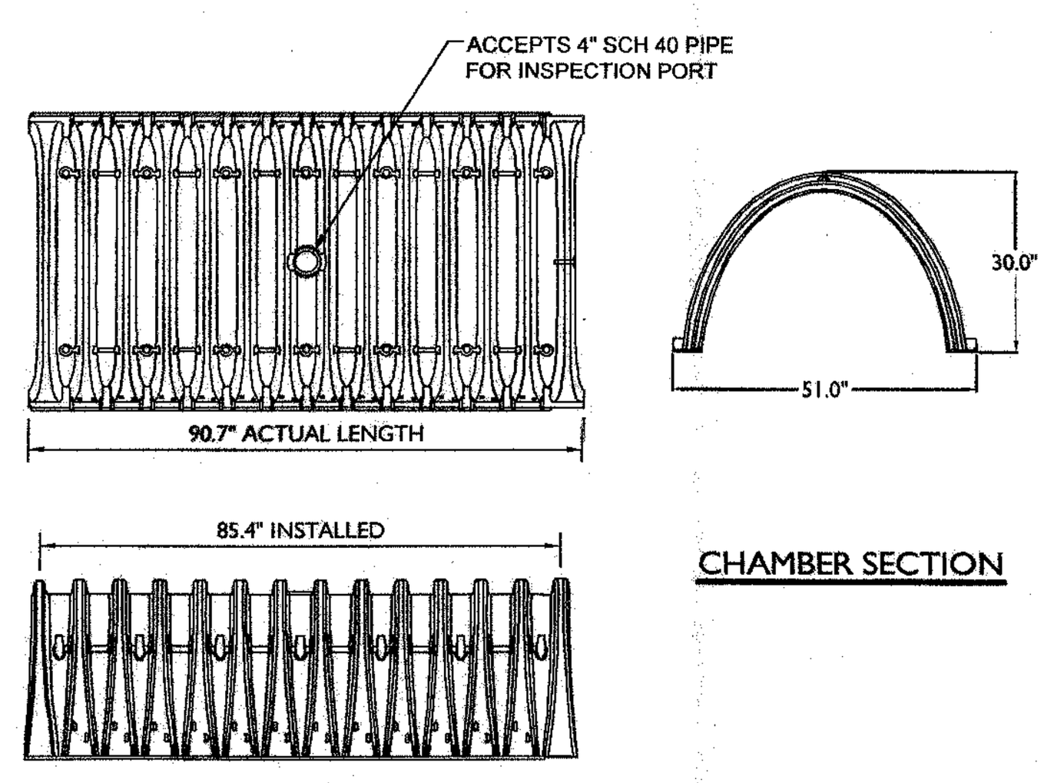


SYSTEM SECTION

*SEE STORMTECH DESIGN MANUAL

STORMTECH NOTES:

1. CHAMBERS SHALL BE STORMTECH SC-740 OR APPROVED EQUAL.
2. CHAMBERS SHALL BE MADE FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE FLOW.
4. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12 ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
5. ONLY CHAMBERS THAT ARE APPROVED BY THE ENGINEER WILL BE ALLOWED. THE CONTRACTOR SHALL SUBMIT (3 SETS) OF THE FOLLOWING TO THE ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
   - A STRUCTURAL EVALUATION BY A REGISTERED STRUCTURAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12 ARE MET.
   - STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL CROSS SECTION IS BASED.
6. THE INSTALLATION OF CHAMBERS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S LATEST INSTALLATION INSTRUCTIONS.



CHAMBER SECTION

STORMTECH SC-740 CHAMBER

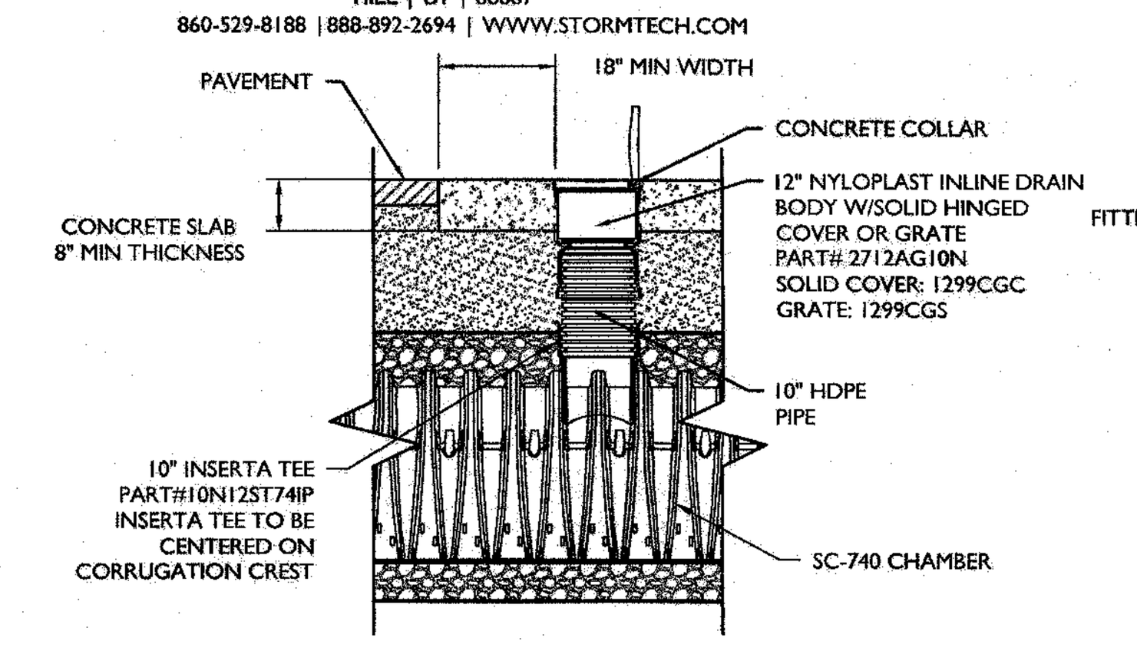
N.T.S.

StormTech

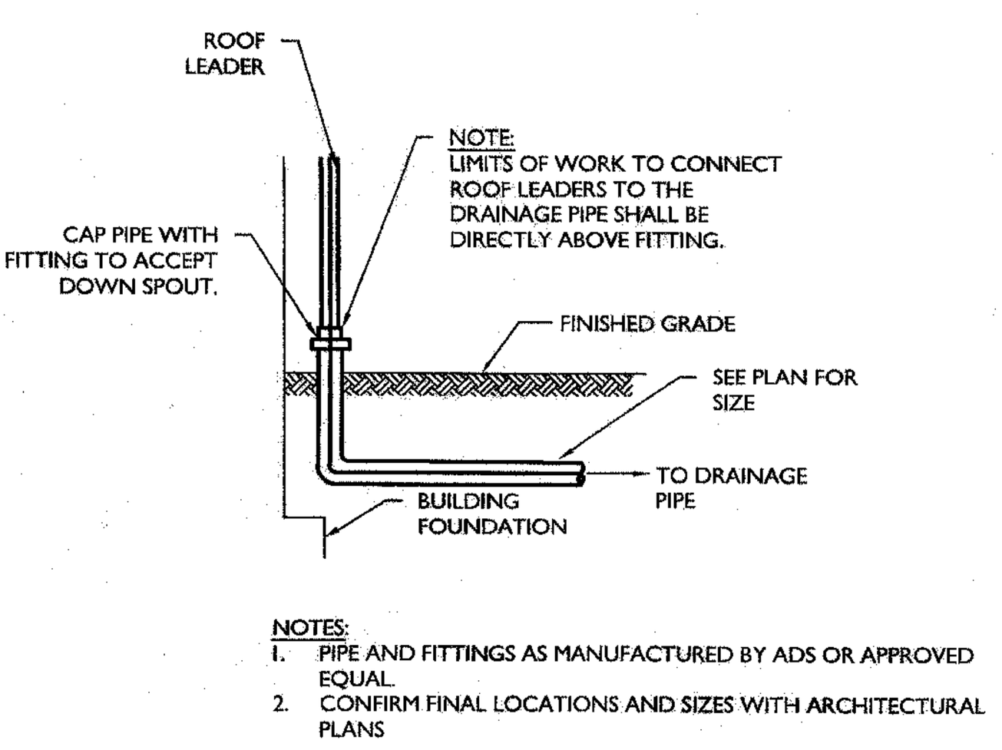
Detention, Retention, Water Quality

70 INWOOD ROAD, SUITE 3 | ROCKY HILL | CT | 06067

860-529-8188 | 888-892-2694 | WWW.STORMTECH.COM



SC-740 INSPECTION PORT DETAIL

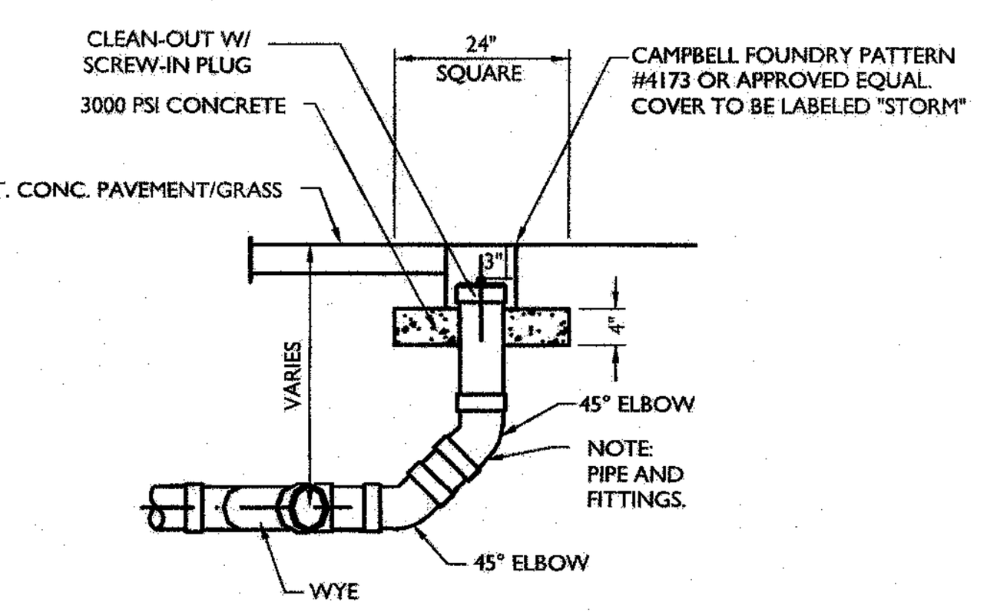


NOTES:

1. PIPE AND FITTINGS AS MANUFACTURED BY ADS OR APPROVED EQUAL.
2. CONFIRM FINAL LOCATIONS AND SIZES WITH ARCHITECTURAL PLANS

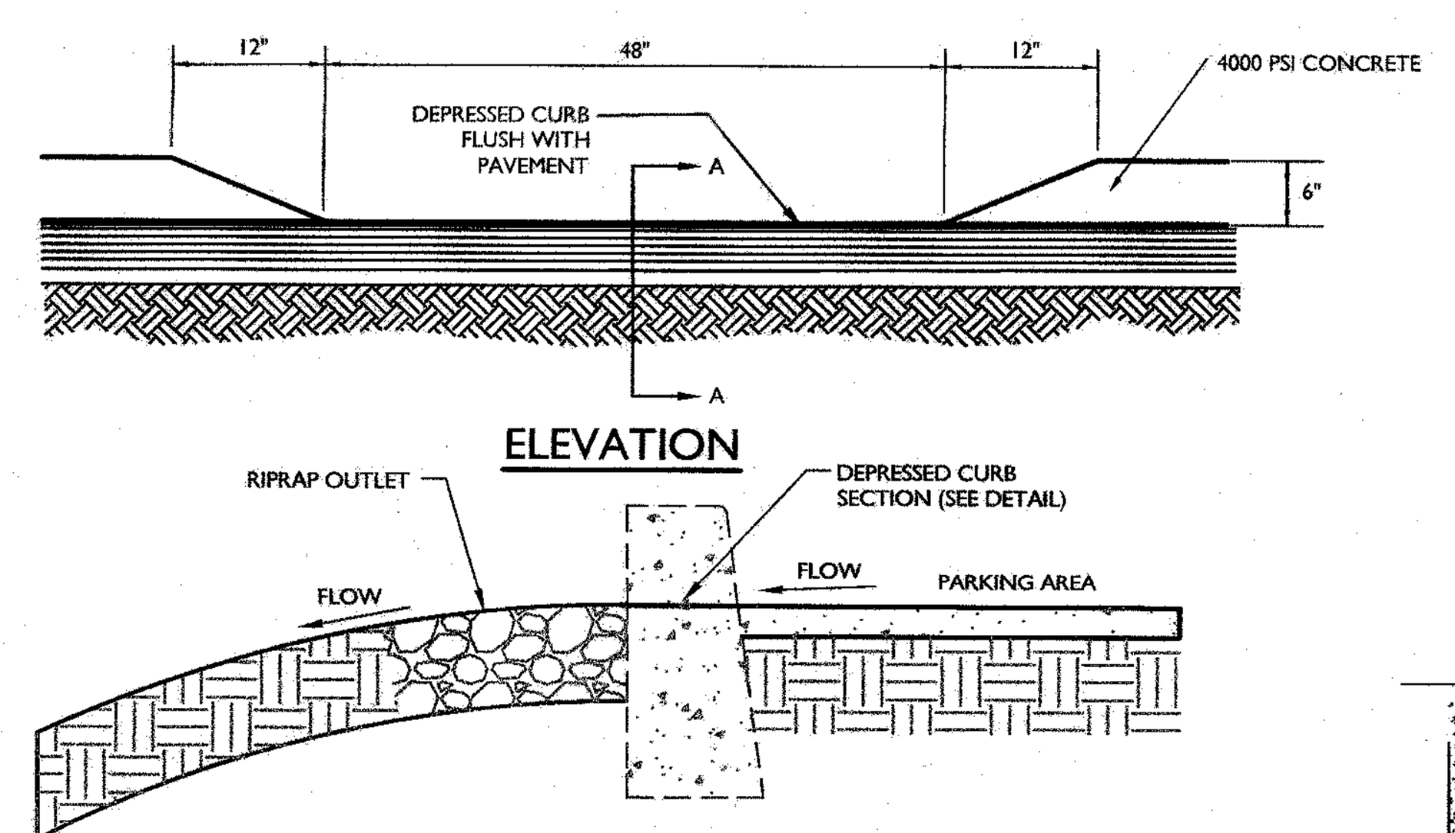
ROOF LEADER DETAIL

N.T.S.



ROOF LEADER CLEANOUT AT BEND

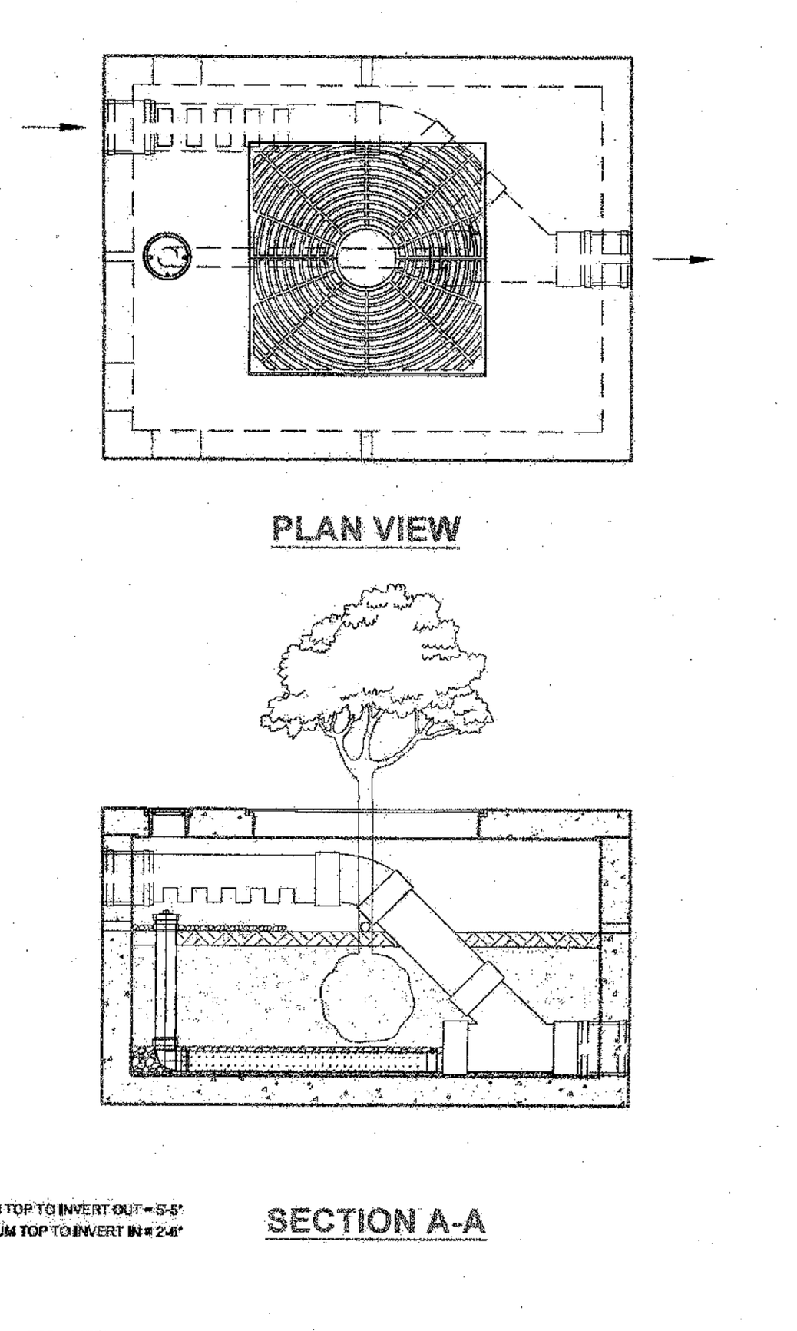
N.T.S.



ELEVATION

SECTION A-A

DEPRESSED CURB FOR DRAINAGE

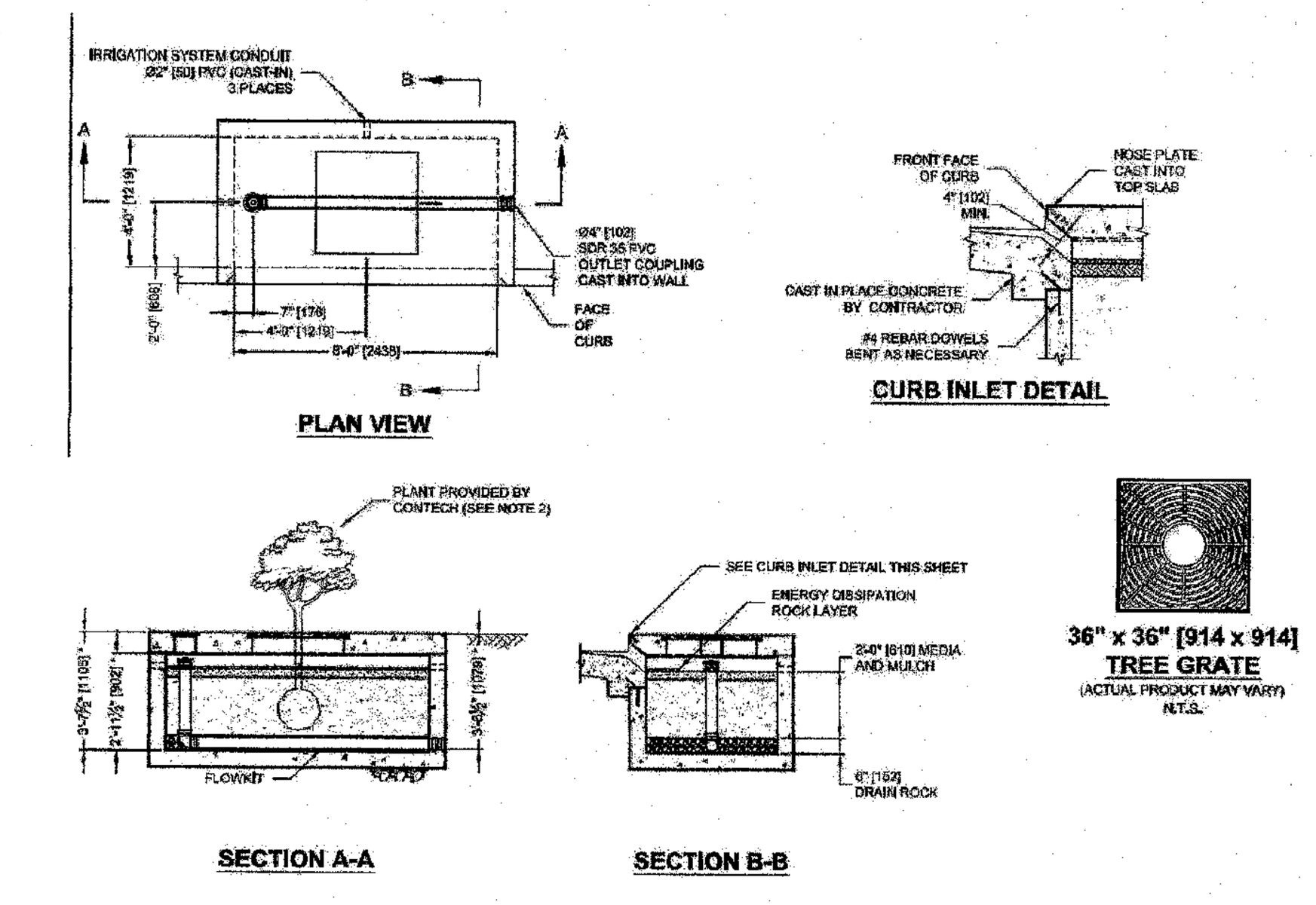


PLAN VIEW

SECTION A-A

FUELING FACILITY FILTERRA UNIT DETAIL WITH PIPE INLET (F-1)

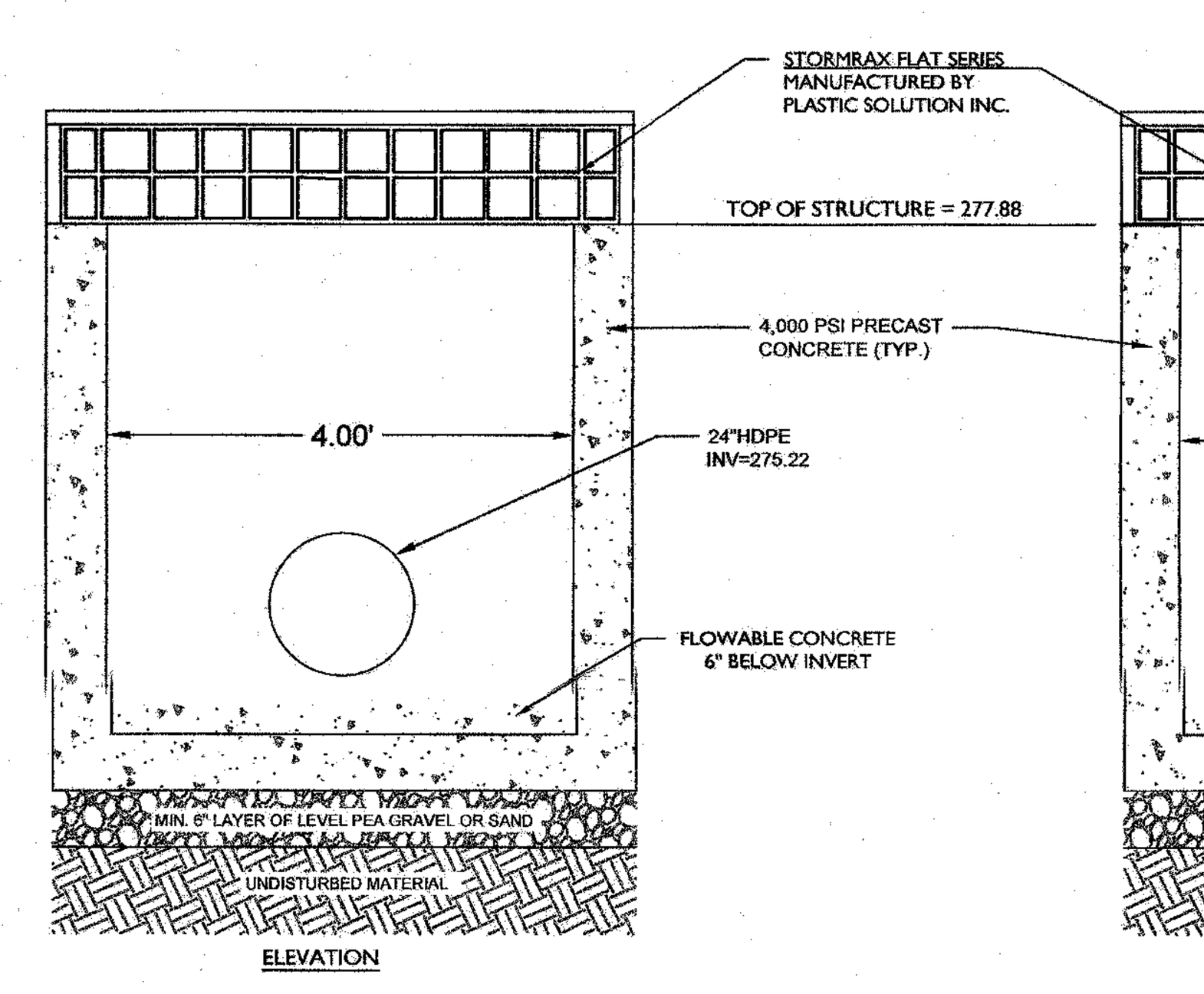
N.T.S.



36" x 36" [914 x 914] TREE GRATE

LOADING AREA FILTERRA UNIT DETAIL WITH CURB INLET (F-2)

N.T.S.

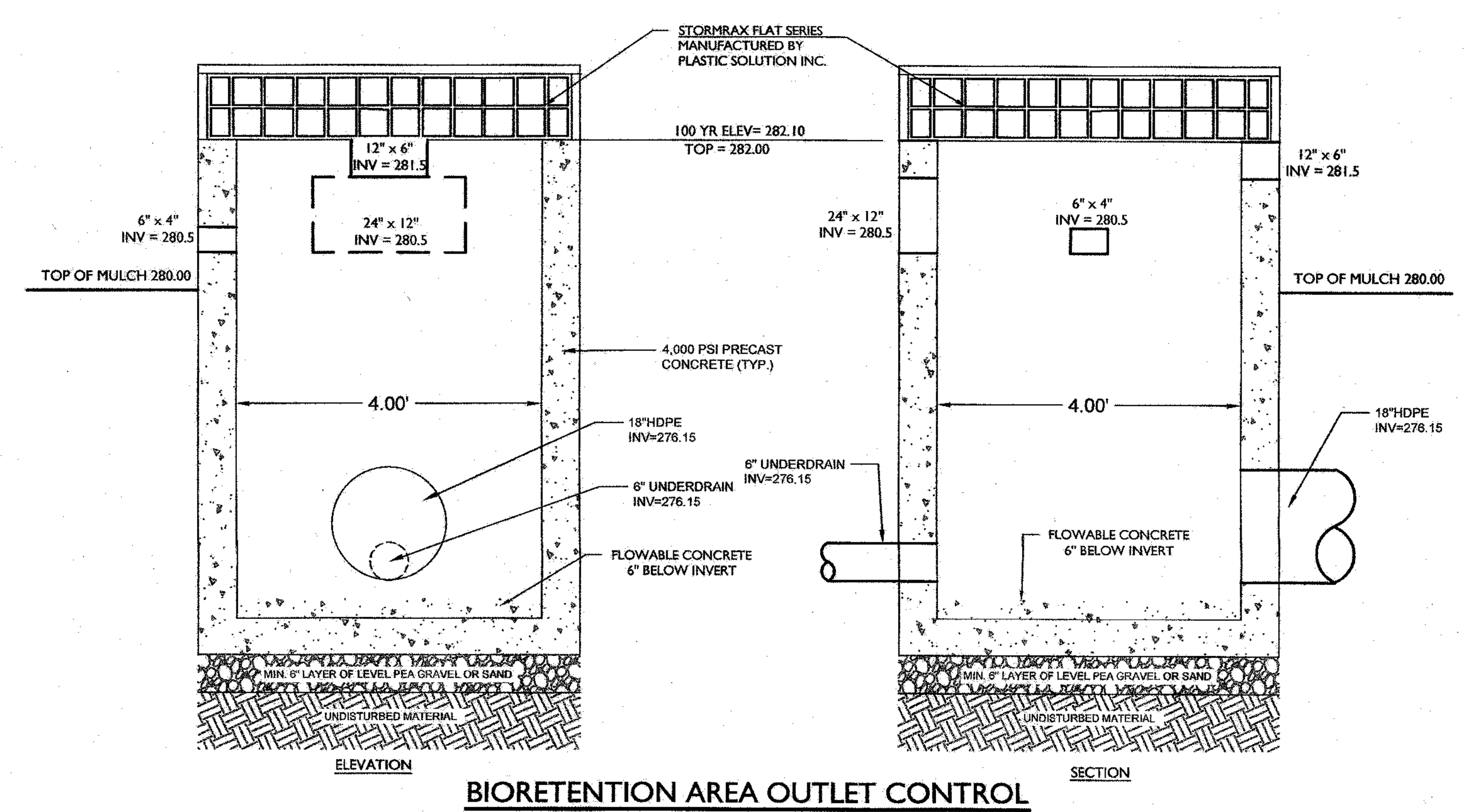


ELEVATION

SECTION

OUTLET CONTROL STRUCTURE DETAIL (OCS 1)

N.T.S.

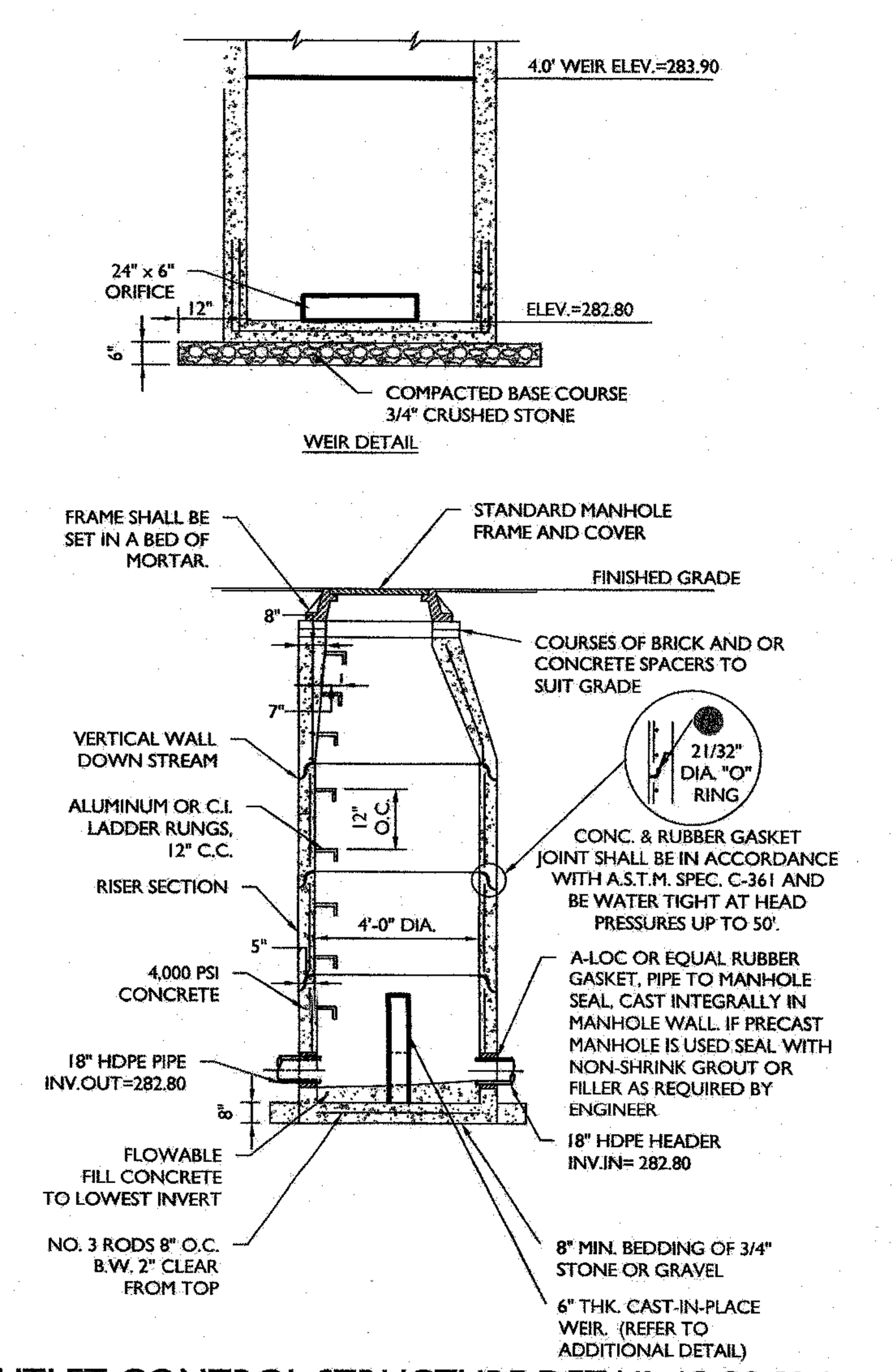


ELEVATION

SECTION

BIORETENTION AREA OUTLET CONTROL STRUCTURE DETAIL (OCS A)

N.T.S.



OUTLET CONTROL STRUCTURE DETAIL (OCS S2a)

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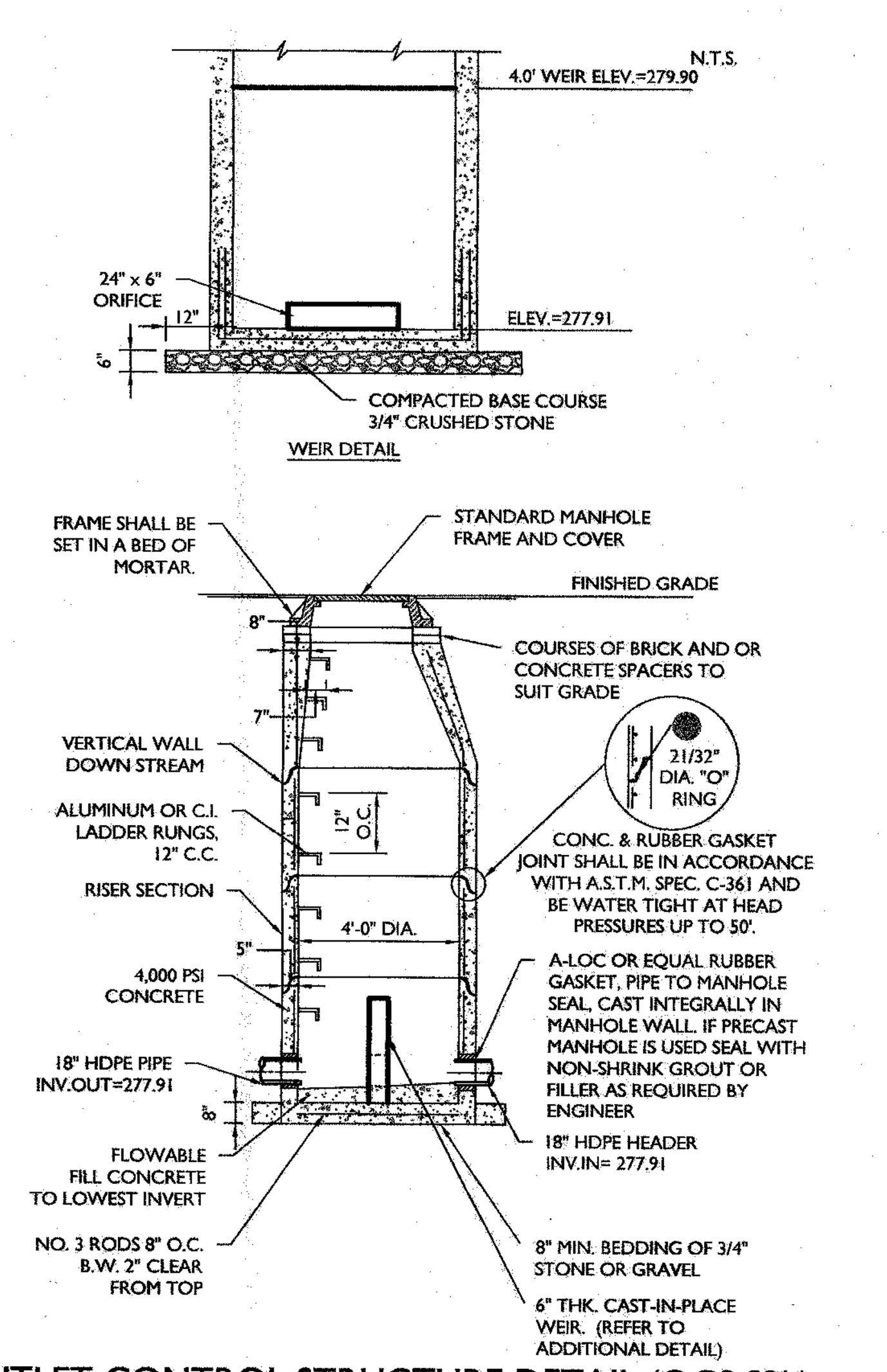

OUTLET CONTROL STRUCTURE DETAIL (OCS S2b)

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State of N.Y. Certificate of Authorization: 0008671 / 0008821

REV	DATE	DRAWN BY	DESCRIPTION
1	06/13/19	CDR	REVISED PER COMMENTS AND SWPPP DESIGN
2	07/11/19	CDR	REVISED PER PLANNING BOARD COMMENTS & OCDOH SUBMISSION

ANDREW B. FETHERSTON

NEW YORK LICENSED PROFESSIONAL ENGINEER - LICENSE NUMBER: 073555-1

BJ's WHOLESALE CLUB

FOR

GDPBJ, LLC

SECTION 97
BLOCK 2
LOTS 27.32, 44, 45 & 46.2

TOWN OF NEWBURGH
ORANGE COUNTY
NEW YORK STATE

NEW WINDSOR OFFICE
555 Hudson Valley Avenue
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New Windsor, NY 12553

Phone: 845.564.4495
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SCALE:	DATE:	DRAWN BY:	CHECKED BY:
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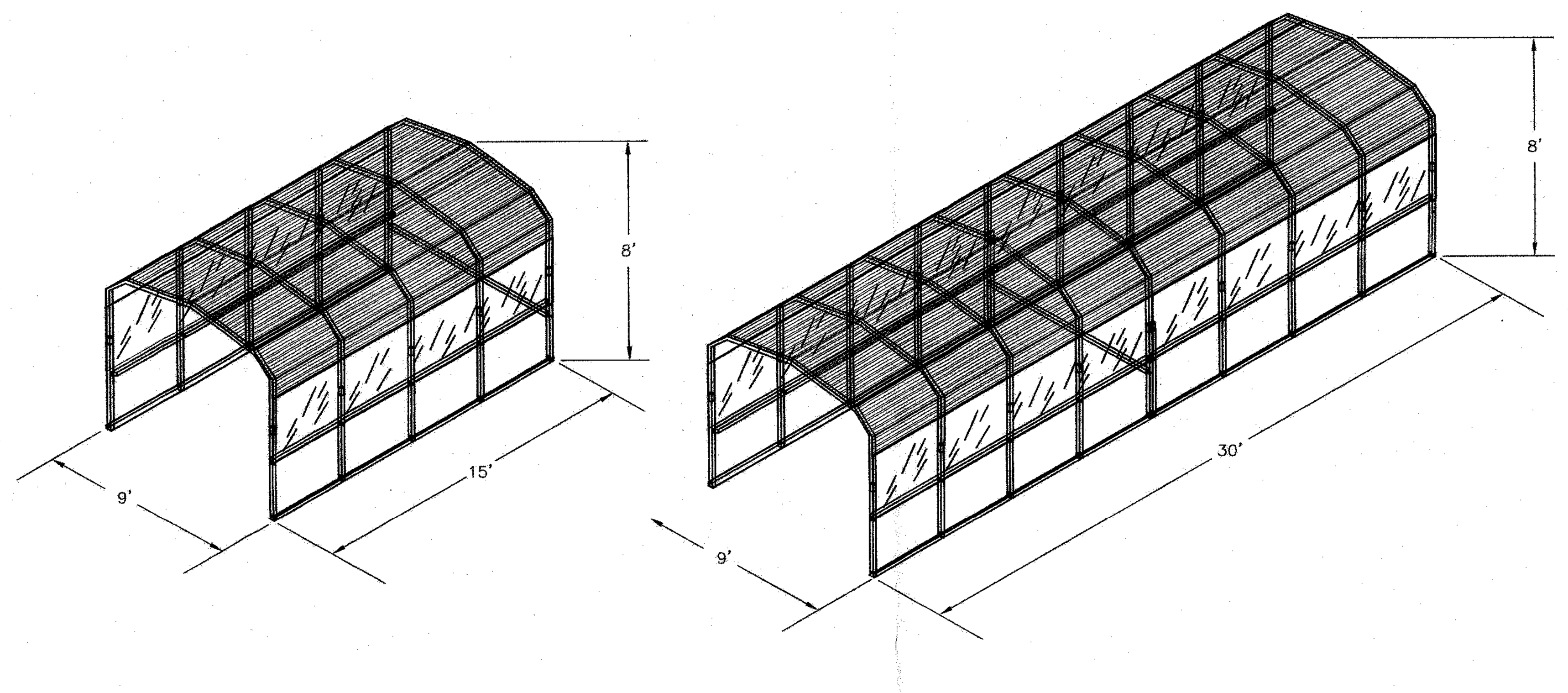

SINGLE AND DOUBLE CART CORRAL DETAILS

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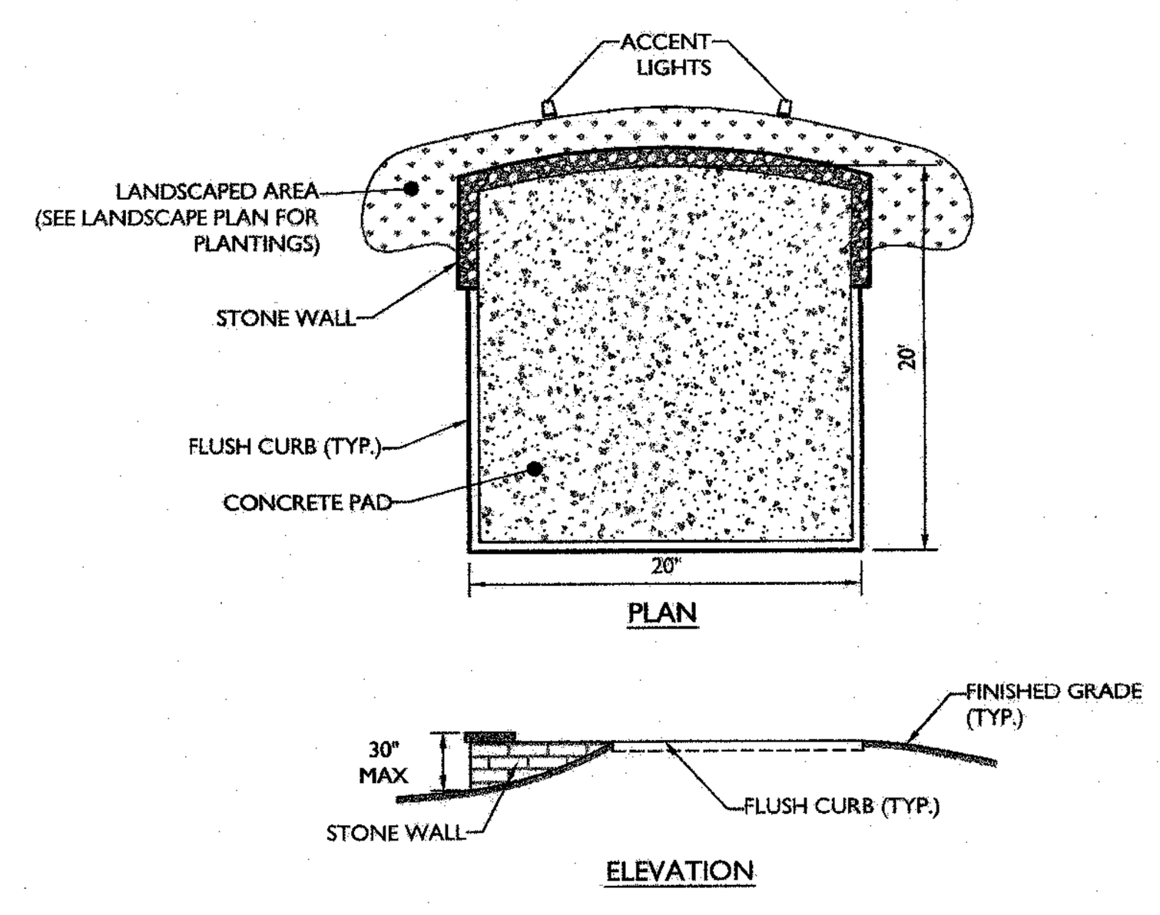

VEHICLE DISPLAY PAD DETAIL

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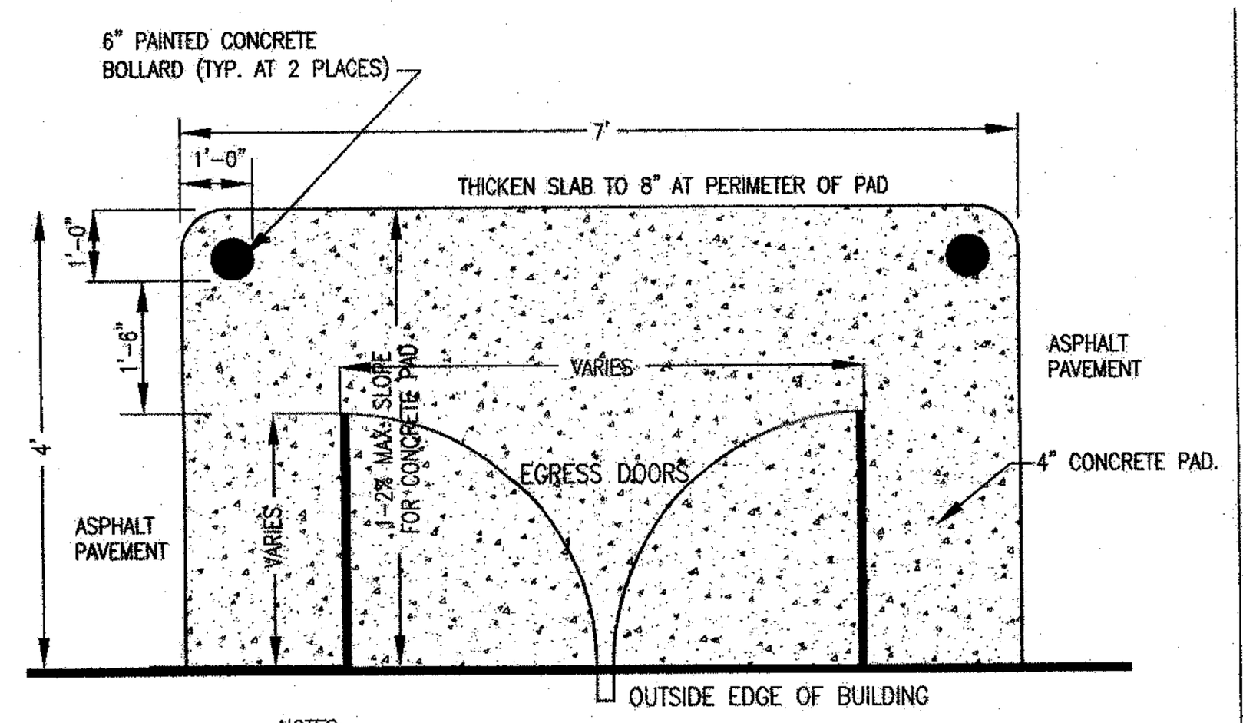
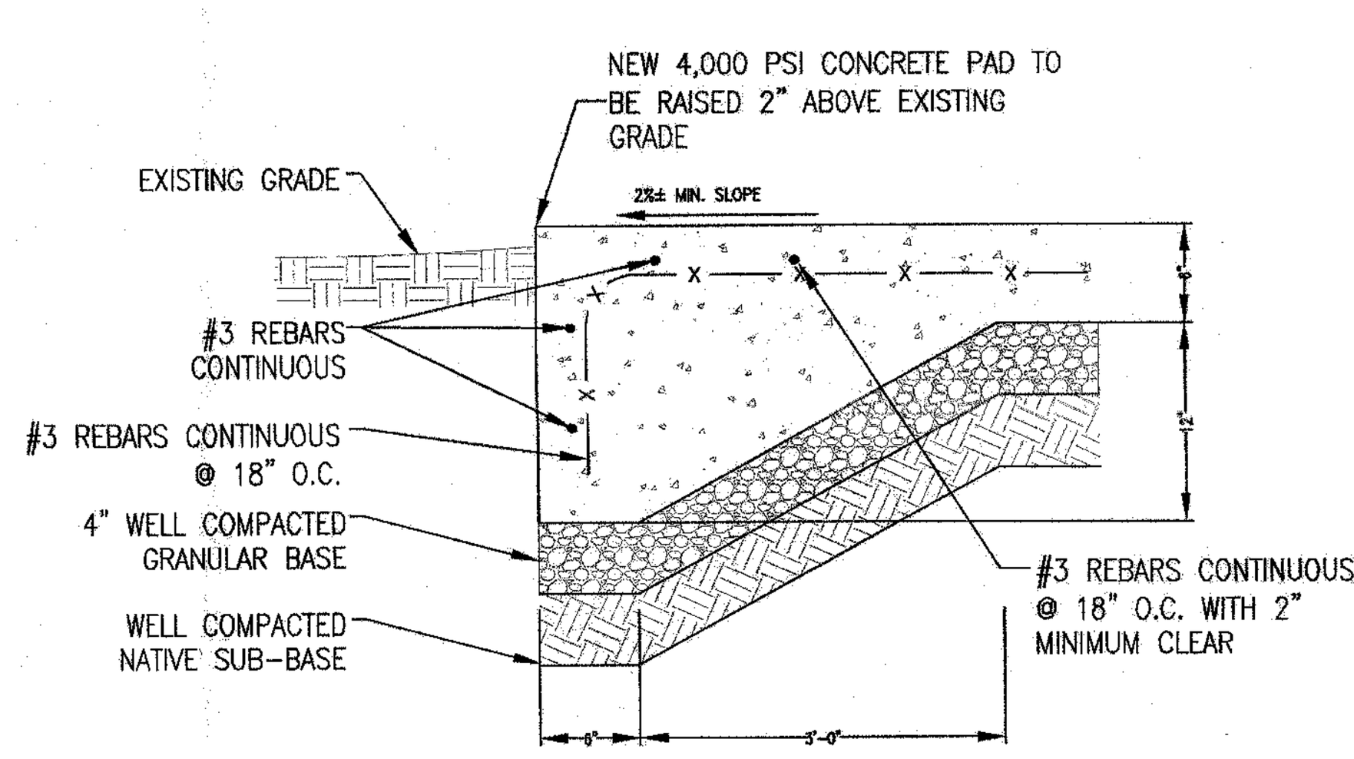


NOTES:

1. IT IS RESPONSIBILITY OF THE ENGINEER TO CONFIRM THE DIMENSIONS AND OTHER APPURTENANCES OF THE CONCRETE STOOP. THE FINAL DESIGN SHALL COMPLY WITH ALL APPLICABLE BUILDING AND FIRE CODES.

CONCRETE STOOP DETAIL

N.T.S.



PROPANE CONCRETE PAD DETAIL

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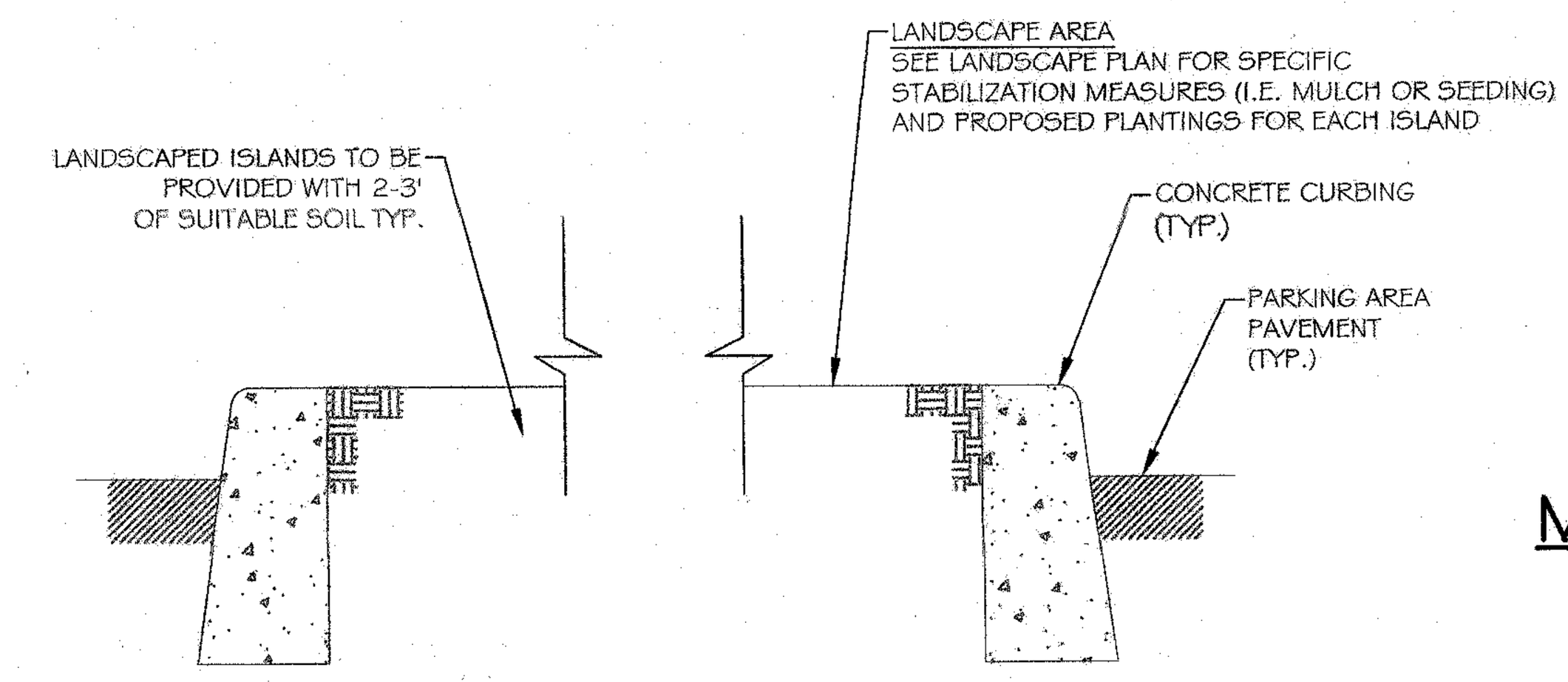

TYPICAL CURBED ISLAND DETAIL

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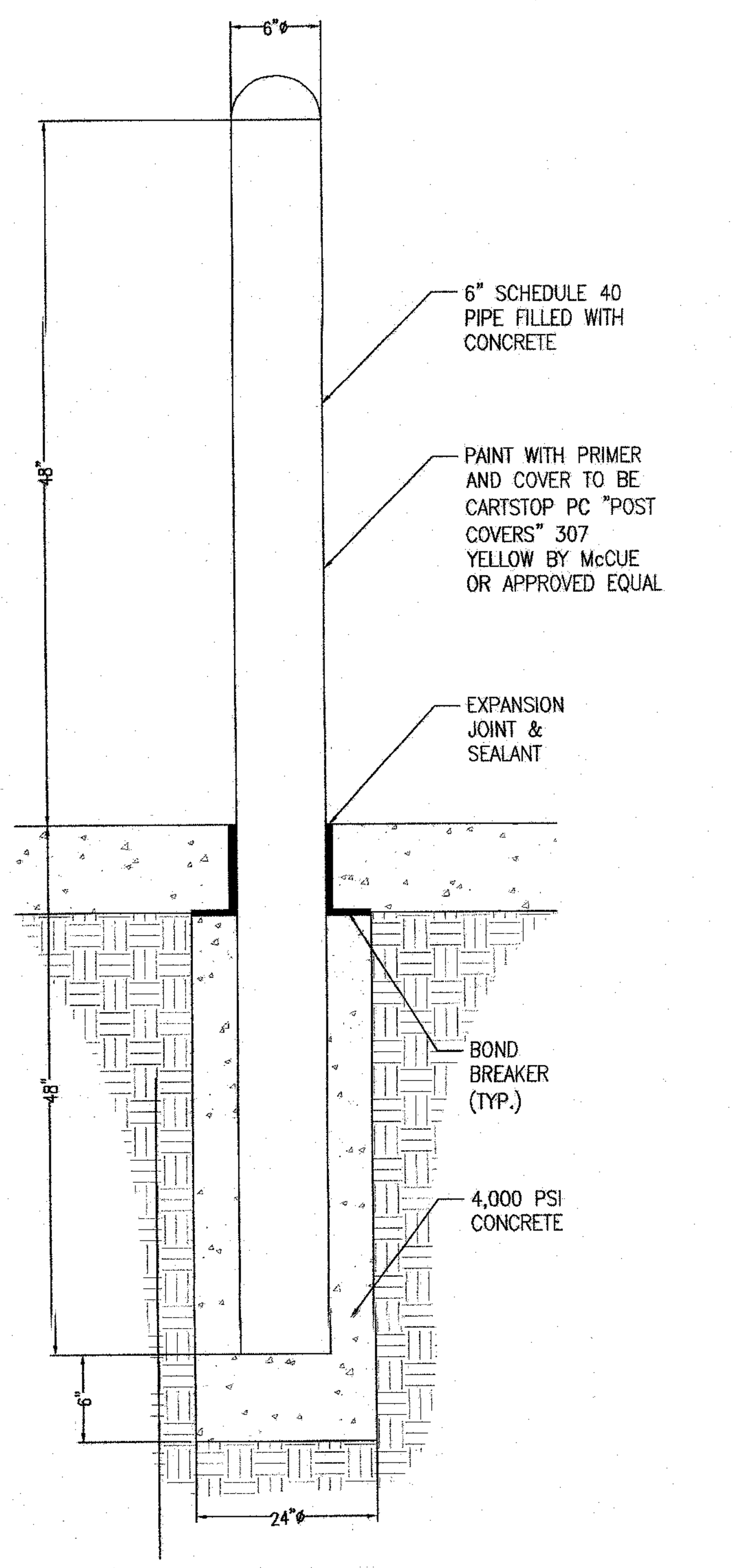

BOLLARD DETAIL

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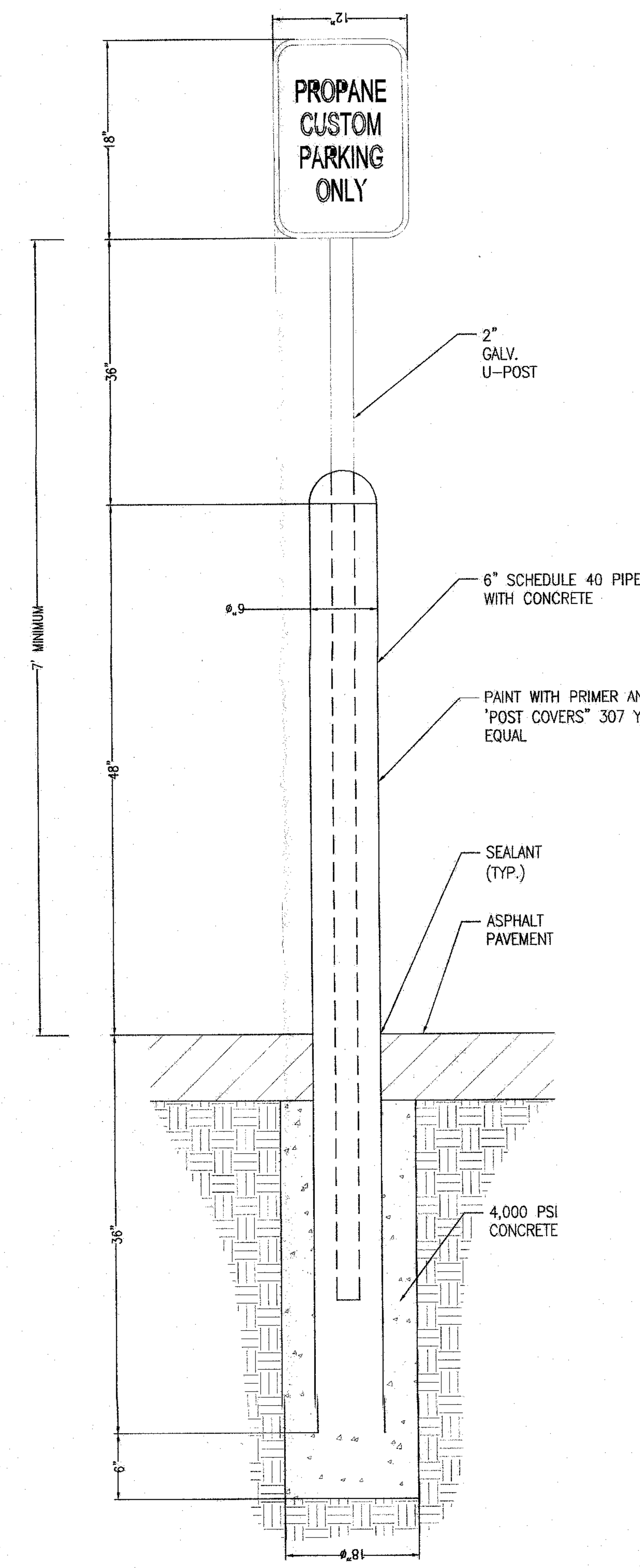

BOLLARD WITH SIGN DETAIL

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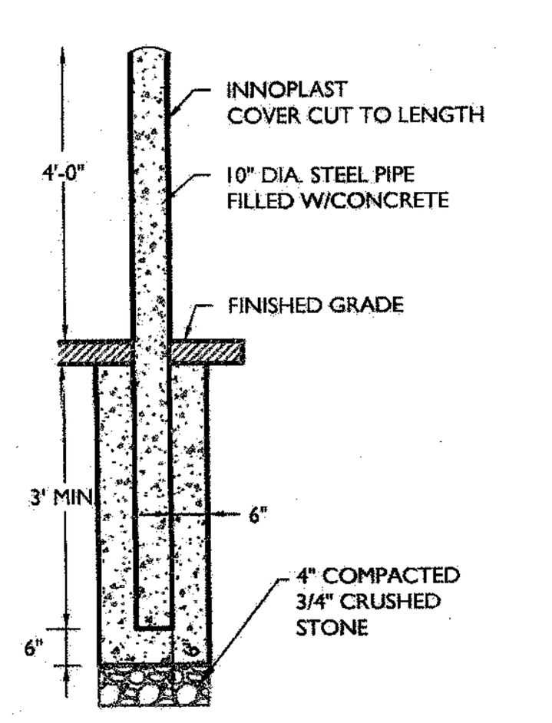
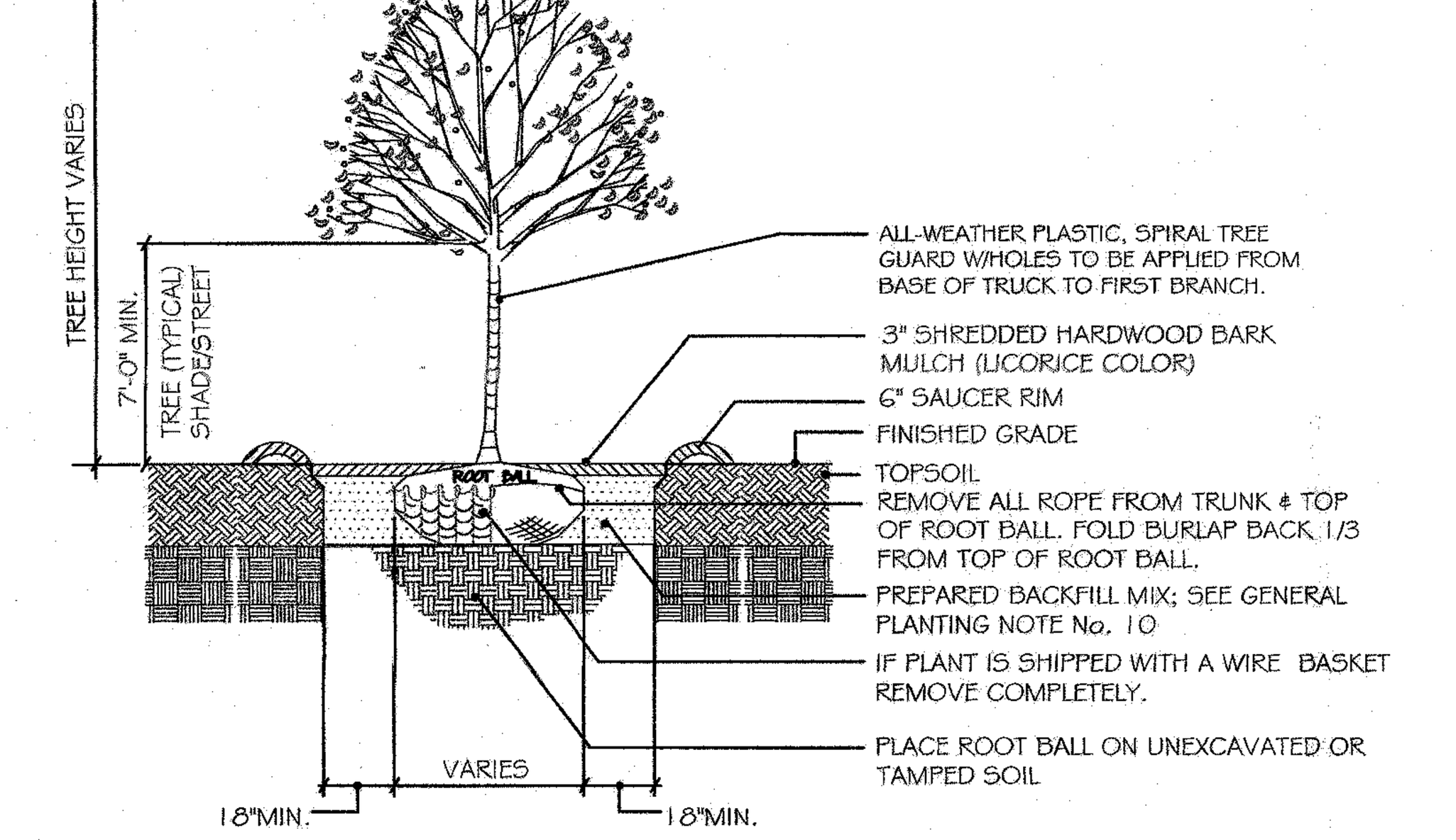


10" BOLLARD



DECIDUOUS TREE PLANTING DETAIL

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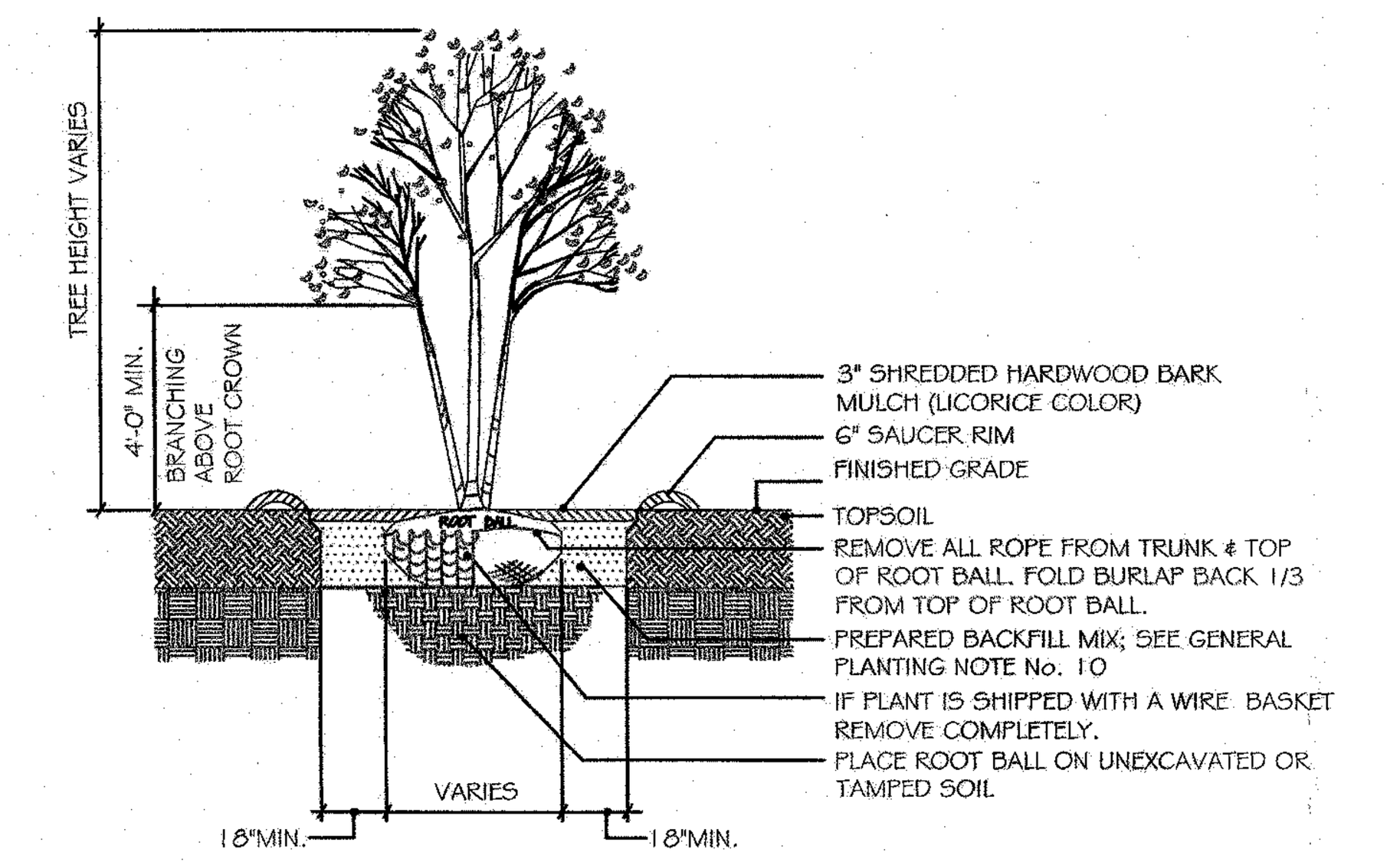

MULTI-STEM TREE PLANTING DETAIL

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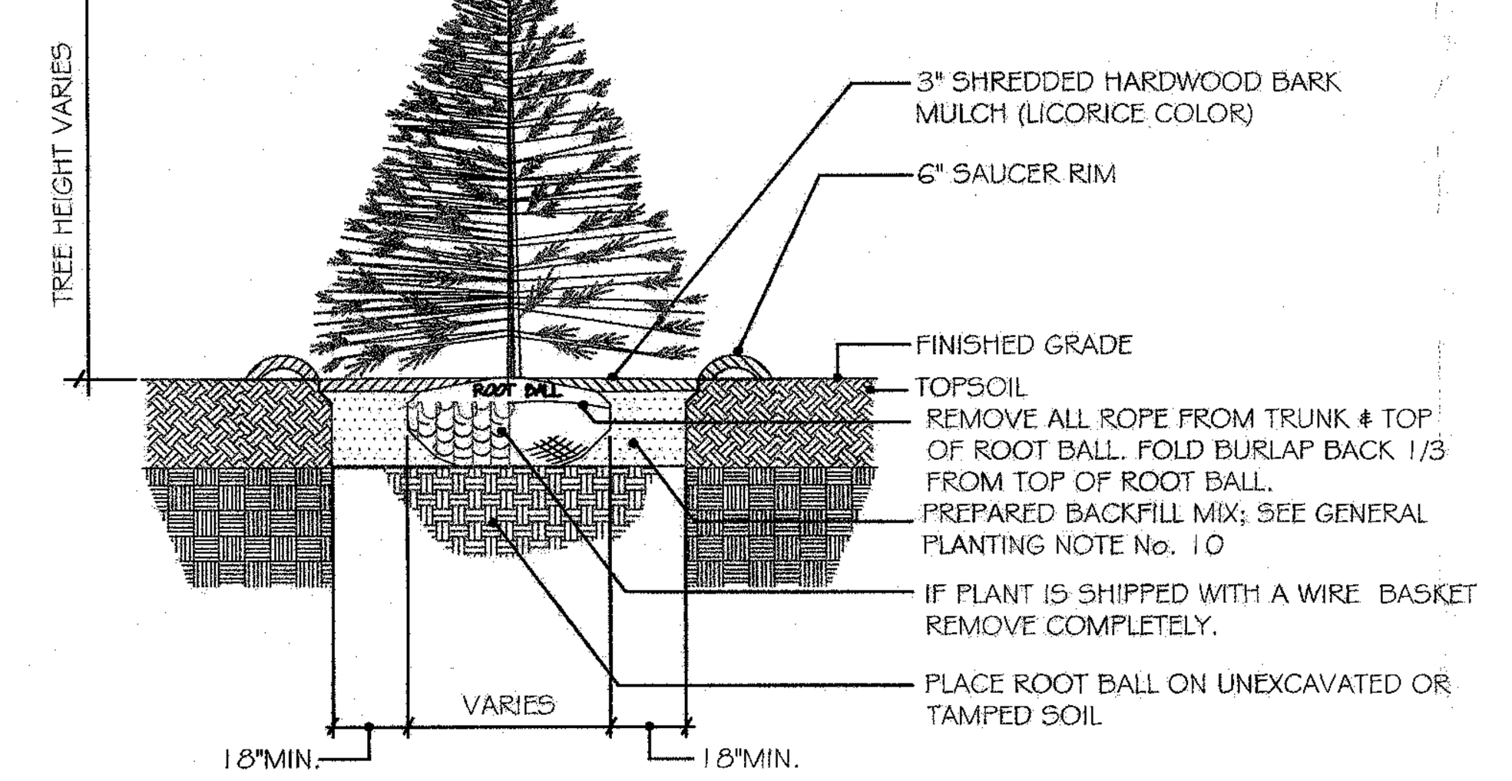
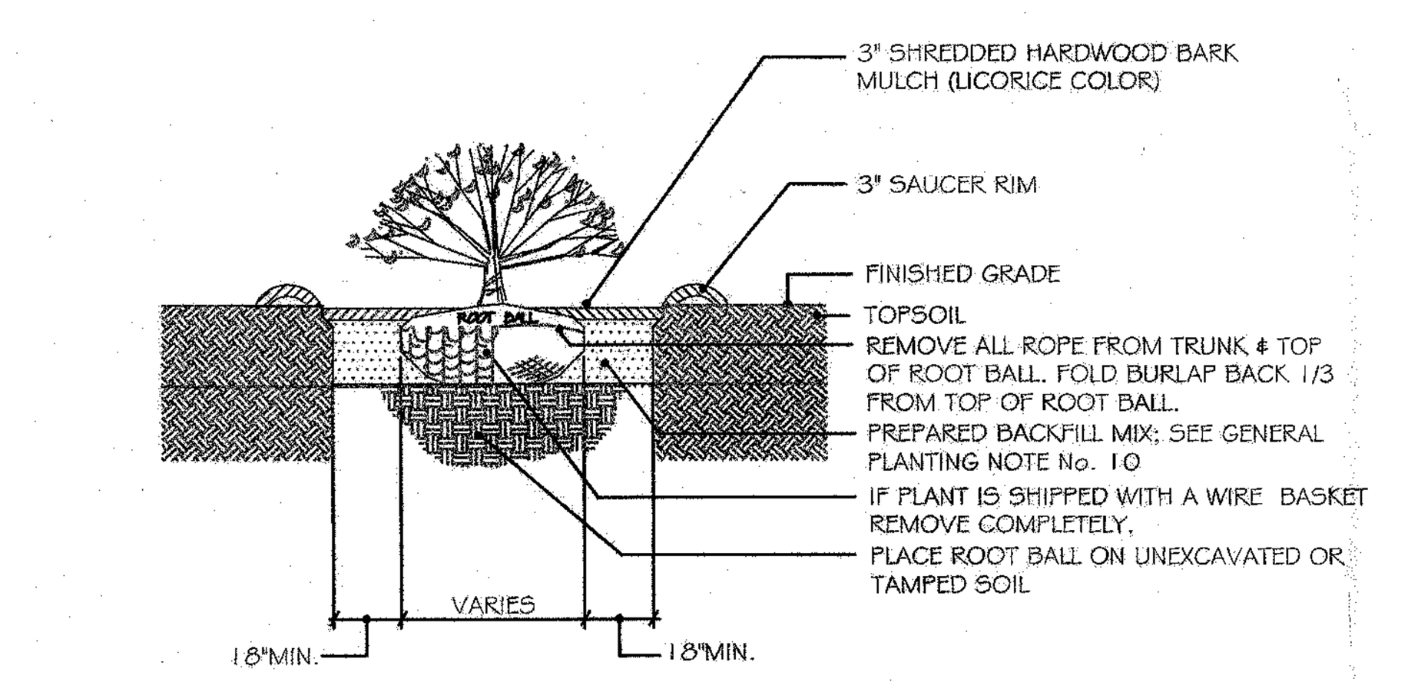


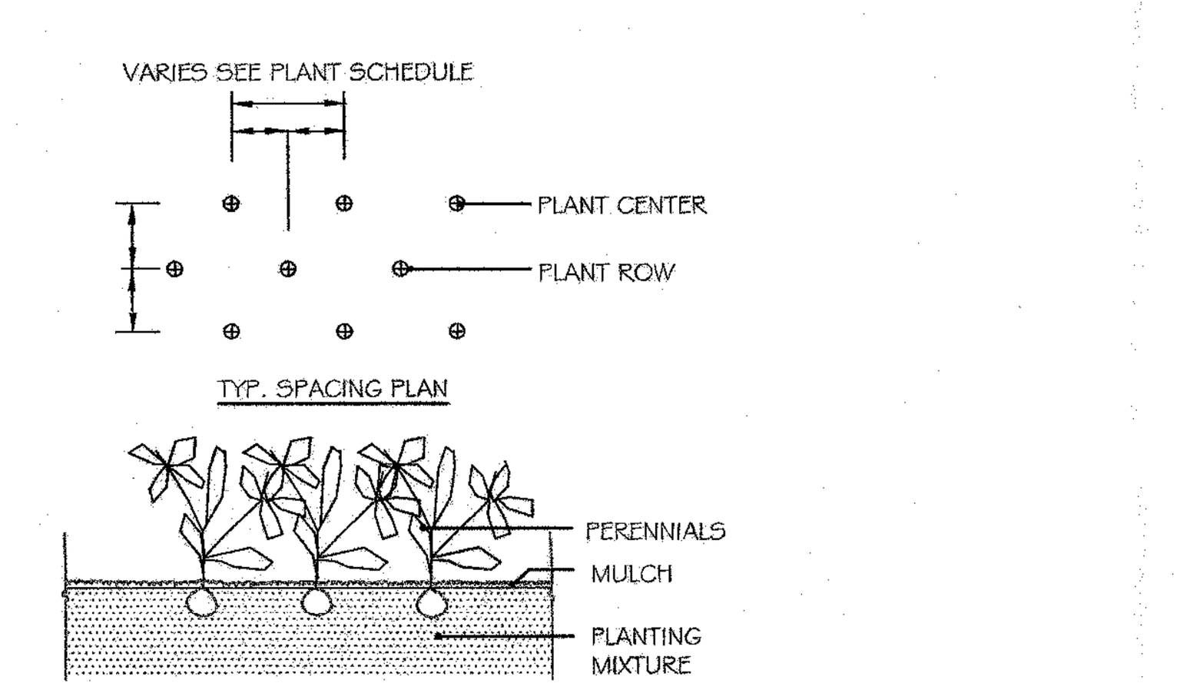
EVERGREEN PLANTING DETAIL

N.T.S.



SHRUB PLANTING DETAIL

N.T.S.



PERENNIAL PLANTING DETAIL

N.T.S.

GENERAL PLANTING NOTES:

1. THIS PLAN SHALL BE USED FOR LANDSCAPE PLANTING PURPOSES ONLY. EXAMINE ALL ENGINEERING DRAWINGS AND FIELD CONDITIONS FOR SPECIFIC LOCATIONS OF UTILITIES AND STRUCTURES AND NOTIFY THE LANDSCAPE ARCHITECT OF ANY DISCREPANCIES OR LOCATION CONFLICTS PRIOR TO PLANTING INSTALLATION.
2. THE CONTRACTOR IS RESPONSIBLE TO LOCATE AND VERIFY LOCATION OF ALL UTILITIES ON SITE PRIOR TO CONSTRUCTION.
3. ALL PLANT MATERIAL SHALL CONFORM TO GUIDELINES AS SET FORTH IN THE LATEST EDITION OF THE AMERICAN ASSOCIATION OF NURSERYMEN'S STANDARD FOR NURSERY STOCK OR THE PLANT MATERIAL WILL BE UNACCEPTABLE. ALL PLANT MATERIAL SHALL BE TRUE TO SPECIES, VARIETY, SIZE AND BE CERTIFIED DISEASE AND INSECT FREE. THE OWNER AND/OR THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO APPROVE ALL PLANT MATERIAL ON SITE PRIOR TO INSTALLATION.
4. NO PLANT SUBSTITUTIONS SHALL BE PERMITTED WITH REGARD TO SIZE, SPECIES, OR VARIETY WITHOUT WRITTEN PERMISSION OF THE LANDSCAPE CONSULTANT. WRITTEN PROOF OF PLANT MATERIAL UNAVAILABILITY MUST BE DOCUMENTED.
5. THE LOCATION OF ALL PLANT MATERIAL INDICATED ON THE LANDSCAPE PLANS ARE APPROXIMATE. THE FINAL LOCATION OF ALL PLANT MATERIAL AND PLANTING BED LINES SHALL BE DETERMINED IN THE FIELD UNDER THE DIRECTION OF THE LANDSCAPE ARCHITECT.
6. ALL STREET TREES AND SHADE TREES PLANTED NEAR PEDESTRIAN OR VEHICULAR ACCESS SHOULD NOT BE BRANCHED LOWER THAN 7'-0" ABOVE GRADE. ALL PLANT MATERIAL LOCATED WITHIN SIGHT TRIANGLE EASEMENTS SHALL NOT EXCEED A MATURE HEIGHT OF 30" ABOVE THE ELEVATION OF THE ADJACENT CURB. ALL STREET TREES PLANTED IN SIGHT TRIANGLE EASEMENTS SHALL BE PRUNED TO NOT HAVE BRANCHES BELOW 10'-0".
7. THE PLANTING PLAN SHALL TAKE PRECEDENCE OVER THE PLANT SCHEDULE SHOULD ANY PLANT QUANTITY DISCREPANCIES OCCUR.
8. ALL PLANT MATERIAL SHALL BE PROPERLY INSTALLED IN CONFORMANCE WITH THE TYPICAL PLANTING DETAILS. INSTALL ALL PLANT MATERIAL ON UNDISTURBED GRADE. CUT AND REMOVE JUTE BURLAP FROM TOP ONE-THIRD OF THE ROOT BALL. WIRE BASKETS AND NOT JUTE BURLAP SHALL BE COMPLETELY REMOVED PRIOR TO BACKFILLING THE PLANT PIT.
9. BRANCHES OF DECIDUOUS TREES SHALL BE PRUNED BACK BY NO MORE THAN ONE QUARTER (1/4) TO BALANCE THE TOP GROWTH WITH ROOTS AND TO PRESERVE THEIR CHARACTER AND SHAPE. THE CENTRAL LEADER OF TREE SHALL NOT BE PRUNED.
10. PROVIDE PLANTING PITS AS INDICATED ON PLANTING DETAILS. BACKFILL PLANTING PITS WITH ONE PART EACH OF TOPSOIL, PEAT MOSS AND PARENT MATERIAL. IF WET SOIL CONDITIONS EXIST THEN PLANTING PITS SHALL BE EXCAVATED AN ADDITIONAL 12" AND FILLED WITH CRUSHED STONE OR UNTIL FREE DRAINING.
11. ALL PLANT MATERIAL SHALL BEAR THE SAME RELATION TO FINISHED GRADE AS IT BORE TO EXISTING GRADE AT NURSERY.
12. OPTIMUM PLANTING TIME:
    DECIDUOUS - APRIL 1 TO JUNE 1 & OCTOBER 15 TO NOVEMBER 30.
    CONIFEROUS - APRIL 1 TO JUNE 1 & SEPTEMBER 1 TO NOVEMBER 1.

    PLANTING OUTSIDE OF THE OPTIMUM DATES SHALL NOT BE CONDUCTED WITH OUT PRIOR APPROVAL FROM THE LANDSCAPE CONSULTANT.
13. NEWLY INSTALLED PLANT MATERIAL SHALL BE WATERED AT THE TIME OF INSTALLATION. REGULAR WATERING SHALL BE PROVIDED TO ENSURE THE ESTABLISHMENT, GROWTH AND SURVIVAL OF ALL PLANTS. WATERING AMOUNTS SHOULD BE ADJUSTED AS RAIN EVENTS OCCUR. WATERING AFTER THE INITIAL 4 WEEKS SHALL BE ADJUSTED BASED ON SEASONAL CONDITIONS. WATERING SHALL NOT TAKE PLACE DURING THE HOTTEST POINT OF THE DAY.
14. ALL PLANT MATERIAL SHALL BE GUARANTEED FOR TWO YEARS AFTER THE DATE OF FINAL ACCEPTANCE. ANY PLANT MATERIAL THAT DIES WITHIN THAT TIME PERIOD SHALL BE REMOVED, INCLUDING THE STUMP, AND REPLACED BY A TREE OF SIMILAR SIZE AND SPECIES AT NO EXPENSE TO THE OWNER.
15. THE LANDSCAPE CONTRACTOR SHALL PROVIDE A MINIMUM 4" LAYER OF TOPSOIL IN ALL LAWN AREAS AND A MINIMUM OF 12" OF TOPSOIL IN ALL PLANTING AREAS. A FULL SOIL ANALYSIS SHALL BE CONDUCTED AFTER CONSTRUCTION AND PRIOR TO PLANTING TO DETERMINE THE EXTENT OF SOIL AMENDMENT REQUIRED. SOIL PH SHOULD BE 5.5-6.5.
16. ALL DISTURBED LAWN AREAS SHALL BE STABILIZED WITH SEED AS INDICATED ON THE LANDSCAPE PLANS. TEMPORARY SEEDING SHALL BE IN ACCORDANCE WITH THE GENERAL SEEDING NOTES ON THIS SHEET. ALL DISTURBED LAWN AREAS SHALL BE TOPSOILED, LIMED, FERTILIZED AND FINE GRADED PRIOR TO LAWN INSTALLATION.
17. ALL PLANTING BEDS SHALL RECEIVE 3" OF SHREDDED HARDWOOD BARK MULCH.
18. ALL SHRUB MASSES SHALL BE PLANTED IN CONTINUOUS MULCHED BEDS.
19. ALL PLANTING DEBRIS (WIRE, TWINE, RUBBER HOSE, BACKFILL ETC.) SHALL BE REMOVED FROM THE SITE AFTER PLANTING IS COMPLETE. PROPERTY IS TO BE LEFT IN A NEAT ORDERLY CONDITION IN ACCORDANCE WITH ACCEPTED PLANTING PRACTICES.

GENERAL SEEDING NOTES:

1. TEMPORARY SEEDING: REFER TO SOIL EROSION AND SEDIMENT CONTROL PLANS.
2. PERMANENT SEEDING SHALL CONSIST OF THE FOLLOWING MIXTURE OR APPROVED EQUAL - OPTIMUM SEEDING DATES ARE BETWEEN APRIL 1 AND MAY 31: AND AUGUST 16 AND OCTOBER 15.

    TURF MIX (7-10 LBS./1,000 S.F. MINIMUM)
    TALL FESCUE, 'STINGRAY' (34%)
    TALL FESCUE, RAPTOR III (33%)
    HARD FESCUE, 'RIDU' (33%)

    BASIN MIX (2-3 LBS./1,000 S.F. MINIMUM)
    CREEPING RED FESCUE (30%)
    TALL FESCUE (30%)
    PERENNIAL RYE GRASS (10%)
    BIRDSFOOT TREFOIL (30%)

    SEEDING OUTSIDE OF THE OPTIMUM DATES SHALL NOT BE CONDUCTED WITH OUT PRIOR APPROVAL.
3. PERMANENT SEEDING TO BE APPLIED BY RAKING OR DRILLING INTO THE SOILS AT THE RATE GIVEN ABOVE.
4. FERTILIZER FOR THE ESTABLISHMENT OF TEMPORARY AND PERMANENT VEGETATIVE COVER SHALL BE IN COMPLIANCE WITH THE LATEST NYSDEC REGULATIONS. THIS INCLUDES, BUT LIMITED TO:
    1. NO FERTILIZER SHALL BE APPLIED BETWEEN DEC. 1 AND APRIL 1 IN ANY YEAR.
    2. SHALL NOT BE APPLIED WITHIN 20 FEET OF A WATER BODY.
    3. ONLY LAWN FERTILIZER WITH LESS THAN 0.67% BY WEIGHT PHOSPHATE CONTENT MAY BE APPLIED.
    (A SOIL TEST PRIOR TO FERTILIZER APPLICATION IS RECOMMENDED.)
5. IF SEASON PREVENTS THE ESTABLISHMENT OF TEMPORARY OR PERMANENT SEEDING, EXPOSED AREA TO BE STABILIZED WITH MULCH AS INDICATED IN NOTE 6.
6. MULCH TO CONSIST OF SMALL GRAIN STRAW OR SALT HAY ANCHORED WITH A WOOD AND FIBER MULCH BINDER OR AN APPROVED EQUAL. MULCH WILL BE SPREAD AT RATES PER NYSDEC STANDARDS AND ANCHORED WITH A MULCH ANCHORING TOOL OR LIQUID MULCH BINDER, AND SHALL BE PROVIDED ON ALL SEEDINGS. HYDROMULCH SHALL ONLY BE USED DURING OPTIMUM GROWING SEASONS.
7. AS NEEDED, WORK LIME AND FERTILIZER INTO SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRINGTOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISCING OPERATION SHOULD BE ON ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM, FINE SEEDBED IS PREPARED. ALL BUT CLAY OR SILTY SOILS AND COARSE SANDS SHOULD BE ROLLED TO FIRM THE SEEDBED WHEREVER FEASIBLE.
8. REMOVE FROM THE SURFACE ALL STONES TWO INCHES OR LARGER IN ANY DIMENSION. REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, PIECES OF CONCRETE, CLODS, LUMPS, OR OTHER UNSUITABLE MATERIAL.
9. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED AND FIRMED AS ABOVE.

PLANT DETAIL NOTES:

1. NO SOIL OR MULCH SHALL BE PLACED AGAINST ROOT COLLAR OF PLANT. MULCH SHALL NOT TOUCH THE TREE TRUNK.
2. PLANTING DEPTH SHALL BE THE SAME OR HIGHER AS GROWN IN NURSERY.
3. WIRE BASKETS AND NON-JUTE BURLAP MUST BE ENTIRELY REMOVED FROM THE ROOT BALL. JUTE BURLAP MUST BE REMOVED FROM THE TOP 1/3 OF THE ROOT BALL.
4. DEPTH OF PLANT PIT SHALL BE INCREASED BY 12" WHEREVER POOR SOIL CONDITIONS OCCUR, WITH THE ADDITION OF LOOSE AGGREGATE.
5. CONTRACTOR SHALL PARTIALLY FILL WITH WATER A REPRESENTATIVE NUMBER OF PITS IN EACH AREA OF THE PROJECT PRIOR TO PLANTING TO DETERMINE IF THERE IS ADEQUATE PERCOLATION. IF PIT DOESN'T PERCOLATE, MEASURES MUST BE TAKEN TO ASSURE PROPER DRAINAGE BEFORE PLANTING.
6. PLANTING MUST BE GUARANTEED FOR TWO FULL GROWING SEASONS FROM THE TIME OF FINAL ACCEPTANCE BY THE LANDSCAPE CONSULTANT. CONTRACTOR SHALL REMOVE ALL WRAPPING AT THE END OF GUARANTEE PERIOD OR SOONER PER PROJECT LANDSCAPE ARCHITECT.
7. BACKFILL MIXTURE TO BE SPECIFIED BASED UPON SOIL TEST AND CULTURAL EQUIREMENTS OF PLANT.
8. PRUNE DAMAGED AND CONFLICTING BRANCHES MAINTAINING NORMAL TREE SHAPE, NEVER CUT CENTRAL TRUNK OR LEADER.

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1	06/13/19	CDR	REVISED PER COMMENTS AND SWPPP DESIGN.
2	07/11/19	CDR	REVISED PER PLANNING BOARD COMMENTS & OCDOH SUBMISSION.

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