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Professional Seal



No.	Date	Issue
11/01/2021	ISSUE FOR BID	
08/24/2021	NYSED ADDENDUM 1	
07/14/2021	CONST. DOCS - FOR NYSED	
12/15/2020	DESIGN DEVELOPMENT	
08/31/2020	SCHEMATIC DESIGN	

Sheet Title

GRADING AND UTILITIES PLAN

Job No.	Date
2018-1071	8/30/2020

Scale: 1" = 20'
 Drawn / Checked
 MEUAT

C300

UTILITY INSTALLATION TEST PIT NOTES

- Existing utility information shown on plan taken from survey prepared by Bodey & Watson Surveying & Engineering, P.C. on August 2, 2019, supplemental information provided by the City of Yonkers Department of Public Works and field investigations.
- Test pit operations shall take place as construction commences and before utility structure shop drawings are produced.
- Contractor to test pit along the path of the proposed utility installations that cross all city streets. See plan for locations of test pit operations.
- The contractor shall provide a sketch depicting material, locations and elevations (top and bottom of pipe) of all existing utilities in the city streets to the project engineer for review relative to pipe crossings prior to acceptance of utility related shop drawings.
- Based on discussions with the City of Yonkers the elevations of the gas mains are unknown, test pit operations to confirm.
- Historically, the existing city water mains have between 4'-5' of cover, test pit operations to confirm.
- Provide 18" vertical separation between water and sewer or drainage, outside of pipe to outside of pipe. If 18" of vertical separation cannot be achieved, then the water main will require concrete encasement (see detail).
- All work within the city street including test pits shall be coordinated with the City of Yonkers and 48-hours notice shall be provided to the project engineer.

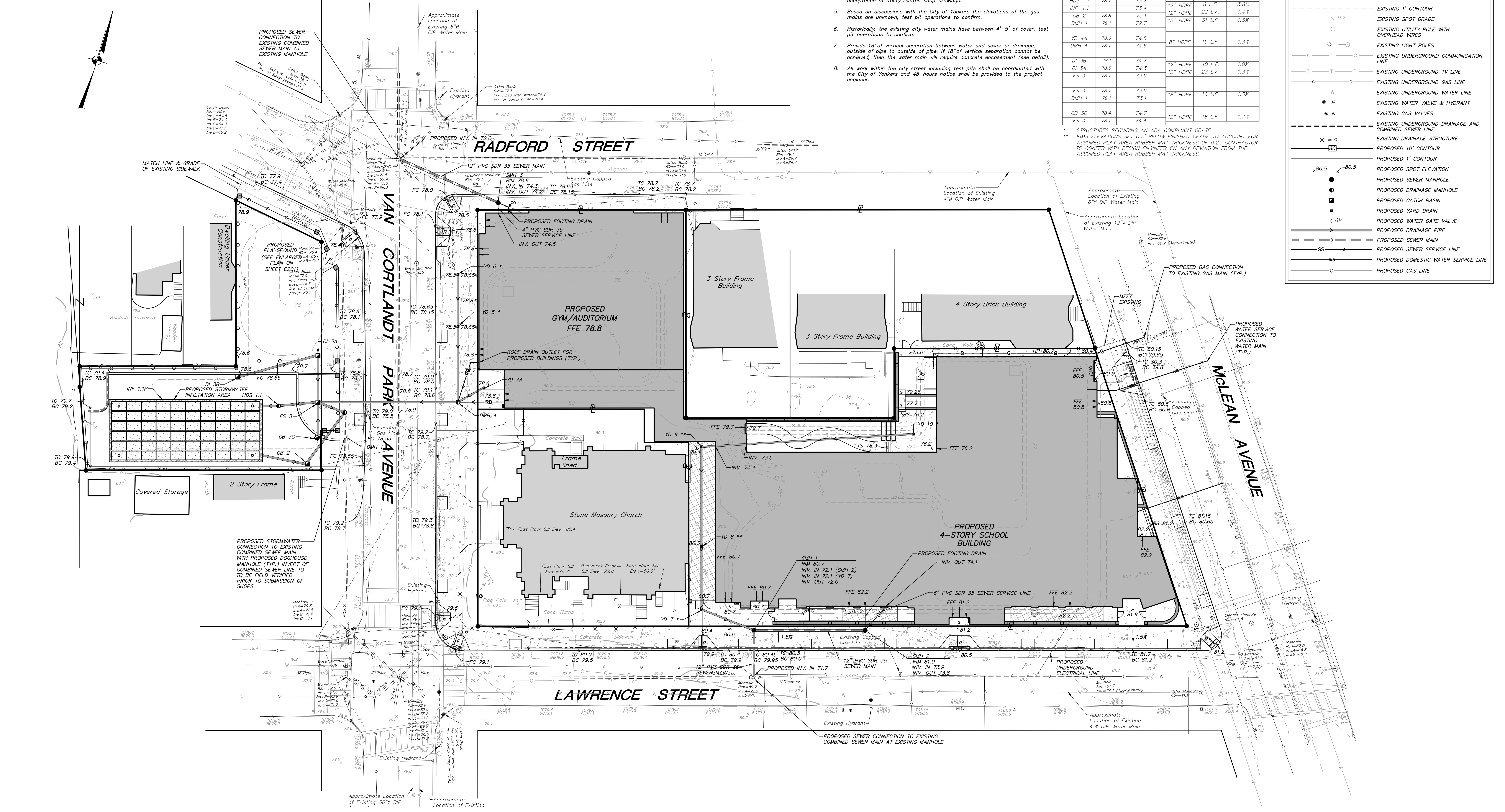
PROPOSED DRAINAGE TABLE

STRUCTURE	RIM	INV.	PIPE	LENGTH	SLOPE
YD 10 *	78.0	74.3	8" HDPE	74.3	1.0%
YD 9 **	80.9	73.3	8" HDPE	48 L.F.	1.0%
YD 8 **	80.1	73.0	8" HDPE	31 L.F.	1.3%
YD 7 *	80.5	72.4	8" HDPE	27 L.F.	1.0%
SMH 1	80.7	72.1			
YD 6 *	78.5	75.5	8" HDPE	25 L.F.	1.2%
YD 5 *	78.5	75.2	8" HDPE	102 L.F.	1.1%
DMH 4	78.7	74.7	8" HDPE	38 L.F.	1.1%
FS 3	78.7	IN 74.0/OUT 73.5	12" HDPE	68 L.F.	1.0%
HDS 1-1	78.7	73.7	12" HDPE	20 L.F.	1.0%
INF 1-1	78.8	73.4	12" HDPE	22 L.F.	1.4%
CB 2	78.8	73.1	18" HDPE	31 L.F.	1.3%
DMH 1	79.1	72.7			
YD 4A	78.6	74.8	8" HDPE	15 L.F.	1.3%
DMH 4	78.7	74.6			
DI 3B	78.1	74.7	12" HDPE	40 L.F.	1.0%
DI 3A	78.5	74.3	12" HDPE	23 L.F.	1.3%
FS 3	78.7	73.9			
FS 3	78.7	73.9	18" HDPE	10 L.F.	1.3%
DMH 1	79.1	73.1			
CB 3C	78.4	74.7	12" HDPE	18 L.F.	1.7%
FS 3	78.7	74.4			

* STRUCTURES REQUIRING AN ADA COMPLIANT GRATE
 RIMS ELEVATIONS SET 0.2' BELOW FINISHED GRADE TO ACCOUNT FOR ASSUMED PLAY AREA RUBBER MAT THICKNESS OF 0.2'. CONTRACTOR TO COVER WITH DESIGN ENGINEER OR ANY DEVIATION FROM THE ASSUMED PLAY AREA RUBBER MAT THICKNESS.

LEGEND

- P — EXISTING PROPERTY LINE
- EXISTING EDGE OF PAVEMENT
- EXISTING CURB
- X — EXISTING FENCE
- X — EXISTING SIGN
- 65 — EXISTING 5' CONTOUR
- 1' — EXISTING 1' CONTOUR
- X 81.2 — EXISTING SPOT GRADE
- O — EXISTING UTILITY POLE WITH OVERHEAD WIRES
- O — EXISTING LIGHT POLES
- C — EXISTING UNDERGROUND COMMUNICATION LINE
- T — EXISTING UNDERGROUND TV LINE
- C — EXISTING UNDERGROUND GAS LINE
- C — EXISTING UNDERGROUND WATER LINE
- H — EXISTING WATER VALVE & HYDRANT
- H — EXISTING GAS VALVES
- --- --- EXISTING UNDERGROUND DRAINAGE AND COMBINED SEWER LINE
- --- --- EXISTING DRAINAGE STRUCTURE
- --- --- PROPOSED 10' CONTOUR
- --- --- PROPOSED 1' CONTOUR
- 80.5 • PROPOSED SPOT ELEVATION
- PROPOSED SEWER MANHOLE
- PROPOSED DRAINAGE MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED YARD DRAIN
- PROPOSED WATER GATE VALVE
- PROPOSED DRAINAGE PIPE
- PROPOSED SEWER MAIN
- PROPOSED SEWER SERVICE LINE
- PROPOSED DOMESTIC WATER SERVICE LINE
- PROPOSED GAS LINE



GENERAL NOTES FOR ACCESSIBLE ROUTES:

- Accessible routes to and within a site shall be provided from accessible building entrances to accessible pedestrian walkways, accessible facilities, accessible site elements and spaces, accessible parking spaces, access aisles, passenger loading zones, and to the public way, including public transportation stops, public streets and sidewalks.
- These sheets are in accordance with the Americans with Disabilities Act (ADA) and the NYS Building Code for Site Accessibility.
- Dimensions shown in the details as minimums and maximums are the limits for design and field layout. Facilities shall not be constructed with values outside the limits for work acceptance. See table "Design Element Tolerances" on this sheet.
- To check field layout and to verify work acceptance, all slopes and grades will be measured along the centerline and offset 1' to 1'-6" from the centerline. Cross slopes will be measured perpendicular to centerline at 5' to 10' intervals.
- Grade (running slopes) are measured in the direction of pedestrian travel. Cross slopes are measured perpendicular to the direction of pedestrian travel.
- Joints between sidewalks, curbs, turning spaces and roadways shall be flush and free from abrupt vertical changes greater than 1/4". Vertical surface discontinuities between 1/4" and 1/2" shall be beveled with a slope not steeper than 1V:2H. The bevel shall be applied across the entire joint.
- Sidewalks are connected to roadways by either blended transitions or curb ramps. Blended transitions are connections between the sidewalk level and the roadway level that have a maximum grade (running slope) of 5.0% and transitions greater than 5.0% are considered curb ramps.
- Curb ramps and blended transitions may require the installation of detectable warnings. See additional "Detectable Warning" notes on this sheet, and sidewalk and curb ramp details included in the site plan set.
- Vertical alignment shall be generally planar. Grade breaks within the pedestrian access route shall be perpendicular to the direction of travel and shall not be rounded.
- Sidewalk grade (running slope) shall not exceed 5.0% for design and layout, except when matching into existing sidewalk or when the highway grade is steeper than the adjacent travel lane. The clear space may overlap turning spaces, passenger loading zones, and to the public way, including public transportation stops, public streets and sidewalks.
- The cross slope of pedestrian access routes shall be 1.5% maximum for design and layout, and 2.0% maximum for work acceptance. The following exceptions are allowed:
 - Where pedestrian street crossings are provided at intersections without yield or stop control, or where there is any traffic signal without a flashing red, the cross slope of a pedestrian access route contained within a street crossing shall not exceed 1.5% in any direction for design and layout, and 2.0% maximum for work acceptance.
 - Where midblock pedestrian street crossings are provided, the cross slope of a pedestrian access route contained within a midblock street crossing shall be permitted to equal the street or highway grade.
- Marked Accessible Parking Spaces and Access Aisles:
 - Dimensions - accessible parking spaces shall be at least 8' wide and shall have an adjacent access aisle 8' wide measured perpendicular to the stall slope to accommodate vans with lifts.
 - Common access aisles for 30' parking - two accessible parking spaces may share a common access aisle. For acute angled parking, such as 60° parking, or where one way driveway aisles would prevent vans with passenger side lifts from backing into accessible spaces, an accessible access aisle must be provided for each accessible parking space, with of access aisles and parking spaces are measured perpendicular to the stalling.
 - Signage - each accessible parking space shall be marked by permanently installed signs which display the International Symbol of Access. Each access aisle shall be marked by permanently installed signs indicating that stopping is not permitted in the aisle. Signs shall not block the accessible clear width of adjacent walkways. Signs located where they may be hit by vehicles being parked shall be installed in a post base. The bottoms of signs located on posts installed in paved areas shall be 7" minimum above the walkway surface. The bottoms of signs located in unpaved area shall be 7" minimum above the pavement surface.
 - Surface slopes - slopes of accessible parking spaces, access aisles, and adjoining walkways shall be 1.5% maximum in any direction for design and layout, and 2.0% maximum for work acceptance, while providing positive drainage.
 - Overhead clearance - vehicle access routes to and from accessible parking spaces, including in garages and open parking structures, shall have a minimum vertical clearance of 8'-2".
 - A smooth, flush transition must be provided between all pedestrian walkways, accessible parking spaces and aisles.
 - Where a change in direction is required to access a curb ramp from an access aisle, a turning space 4'-0" x 4'-0" minimum shall be provided at the base or the top of curb ramp, as applicable. The cross slope of turning spaces shall not exceed 1.5% in any direction for design and layout, and 2.0% for work acceptance, while providing positive drainage.
 - Some detectable warning products require a concrete border for proper installation. If required, the border shall not exceed 2". Where the back of curb edge is tooled to provide a radius, the border dimension shall be measured from the inside edge of the curb radius.
 - The details provided are not drawn to scale. The quantity of domes depicted on the detectable warning unit is for illustration only. The size of the detectable warning field shall be 2'-0" minimum in the direction of travel and shall extend the full width of the curb ramp or flush surface, excluding any flared sides. The width of the detectable warning field includes a concrete border, if provided.
 - On slopes of 5.0% or greater, the rows of domes shall be aligned to be perpendicular or radial to the lower grade ramp on the ramp run. Where domes are arrayed radially, they may differ in dome diameter and center-to-center spacing within the ranges specified on sheet 2 of the New York State Department of Transportation (NYSDOT) Standard Sheets 608-01. On slopes less than 5.0%, dome orientation is less critical and may differ from perpendicular or radial alignment to the grade.
 - The detectable warning field shall be the color specified in the contract documents. Detectable warning surfaces shall contrast visually with adjacent gutter, street, highway, or pedestrian access route surface, either light-on-dark or dark-on-light.
 - Refer to sidewalk curb ramp details for additional information.
 - Walkways Along an Accessible Route:
 - Walking surfaces shall be stable, firm and slip resistant.
 - Surface slopes - slopes of accessible parking spaces shall not exceed 1/4". Changes in level greater than 1/4" in height and not more than 1/2" shall be beveled with a slope not steeper than 1V:2H.
 - The running slope of the walking surface shall not be steeper than 4.5%. The cross slope of a walking surface shall not be steeper than 1.5%.
 - The clear width of an accessible route shall be 3'-0" minimum.
 - An accessible route with a clear width less than 5'-0" shall provide passing spaces at intervals of 200' maximum. Passing spaces shall be 5'-0" minimum by 5'-0" minimum.
 - Ramps along an accessible route:
 - Ramp runs shall have a running slope greater than 5.0%.
 - Ramp runs shall have a running slope of 7.5% maximum for design and layout, and 8.3% maximum for work acceptance.
 - The cross slope of ramp runs shall not exceed 1.5% for design and layout, and 2.0% maximum for work acceptance.
 - Walking surfaces of ramp runs and associated landings shall be stable, firm and slip resistant.
 - The clear width of a ramp run shall be 3'-0" minimum or as shown. Handrails and handrail supports provided on the ramp run shall not project into the required clear width of the ramp run or associated landing.
 - The maximum rise for any ramp is 2'-6".
 - The maximum run for any ramp is 30'-0".
 - Ramps shall have landings at the bottom and top of each ramp run. Landings shall have a slope not to exceed 1.5% for design and layout, and 2.0% maximum for work acceptance, while providing positive drainage.
 - Landings shall have a clear length and width of 5'-0" minimum.
 - Adjacent finished grades along sides of ramp and landings shall not have a vertical drop-off greater than 1/2" within 10" of the edge of the concrete. If the adjacent finished grades do not meet this criterion, a 4" minimum high curb shall be provided (see plan for location).
 - If drop-off to adjacent grade is 2'-6" or greater, "guards" will need to be provided to meet the requirements as specified in the NYS Building Code latest edition.
 - Refer to concrete handrail ramp detail for additional information.
 - For access to and within refuse enclosures, refer to the Refuse Enclosure Detail.

- Walking surfaces of sidewalk curb ramps shall be stable, firm and slip resistant.
- The minimum width of a curb ramp shall be 4'-0". Refer to site plans and sidewalk curb ramp details for curb ramp widths.
- The grade (running slope) of a curb ramp shall be a minimum of 5.0% for design and layout shall be 7.5% maximum, and 8.3% maximum for ADA accessibility and work acceptance.
- The cross slope of the curb ramp shall be as flat as possible and still provide positive drainage. The cross slope of a curb ramp shall not exceed 1.5% for design and layout, and 2.0% maximum for work acceptance.
- Where provided, side flares for curb ramps where a pedestrian circulation path crosses the curb ramp shall be 8.5% maximum for design and layout, and 10.0% maximum for work acceptance. The slope of flared sides is measured parallel to the curb line.
- Curb ramps at marked crosswalks shall be wholly contained within the markings, excluding any flared sides.
- Where there is no vertical constraints at the back of sidewalk, (e.g., vertical curb, buildings, fences) the turning space dimensions shall be 4'-0" x 4'-0" minimum. Where the turning space is constrained at the back, the turning space shall be 5'-0" x 5'-0" minimum. The 5'-0" dimension shall be provided perpendicular to the constraint.
- Turning spaces shall not be designed with cross slope greater than 1.5% in any direction for design and layout, while providing positive drainage. The maximum cross slope for work acceptance is 2.0%.
- Beyond the bottom grade break, a clear space of 4'-0" x 4'-0" minimum shall be provided within the width of the pedestrian crosswalk, and outside the parallel vehicle travel lanes. The clear space may overlap turning spaces, detectable warning surfaces, and drop curb.
- Detectable Warning:
 - Detectable warning surfaces shall be provided at curb ramps and blended transitions at pedestrian street crossings.
 - Detectable warning surfaces shall be provided where the pedestrian access route crosses driveways with signal, yield or stop control. Detectable warning surfaces shall not be provided at crossings of uncontrolled driveway openings.
 - Some detectable warning products require a concrete border for proper installation. If required, the border shall not exceed 2". Where the back of curb edge is tooled to provide a radius, the border dimension shall be measured from the inside edge of the curb radius.
 - The details provided are not drawn to scale. The quantity of domes depicted on the detectable warning unit is for illustration only. The size of the detectable warning field shall be 2'-0" minimum in the direction of travel and shall extend the full width of the curb ramp or flush surface, excluding any flared sides. The width of the detectable warning field includes a concrete border, if provided.
 - On slopes of 5.0% or greater, the rows of domes shall be aligned to be perpendicular or radial to the lower grade ramp on the ramp run. Where domes are arrayed radially, they may differ in dome diameter and center-to-center spacing within the ranges specified on sheet 2 of the New York State Department of Transportation (NYSDOT) Standard Sheets 608-01. On slopes less than 5.0%, dome orientation is less critical and may differ from perpendicular or radial alignment to the grade.
 - The detectable warning field shall be the color specified in the contract documents. Detectable warning surfaces shall contrast visually with adjacent gutter, street, highway, or pedestrian access route surface, either light-on-dark or dark-on-light.
 - Refer to sidewalk curb ramp details for additional information.
- Walkways Along an Accessible Route:
 - Walking surfaces shall be stable, firm and slip resistant.
 - Surface slopes - slopes of accessible parking spaces shall not exceed 1/4". Changes in level greater than 1/4" in height and not more than 1/2" shall be beveled with a slope not steeper than 1V:2H.
 - The running slope of the walking surface shall not be steeper than 4.5%. The cross slope of a walking surface shall not be steeper than 1.5%.

ACCESSIBILITY DESIGN ELEMENT TOLERANCES

ELEMENT	DESIGN AND FIELD LAYOUT LIMIT	LIMIT FOR WORK ACCEPTANCE
SIDEWALK/RAMP CROSS SLOPE - SEE NOTES 11, 14, & 16	1.5% MAX.	2.0% MAX.
SIDEWALK GRADE (RUNNING SLOPE) - SEE NOTES 10 & 14	4.5% MAX.	5.0% MAX.
CURB RAMP GRADE (RUNNING SLOPE) - SEE NOTE 13	7.5% MAX.	8.3% MAX.
BLENDED TRANSITION GRADE (RUNNING SLOPE) - SEE NOTE 7	4.5% MAX.	5.0% MAX.
ACCESSIBLE PARKING SPACES & ACCESS AISLES (SURFACE SLOPES - ALL DIRECTIONS) - SEE NOTE 12	1.5% MAX.	2.0% MAX.
RAMP (RUNNING SLOPE) - SEE NOTE 16	7.5% MAX.	8.3% MAX.

* While providing positive drainage.

GRAPHIC SCALE

