

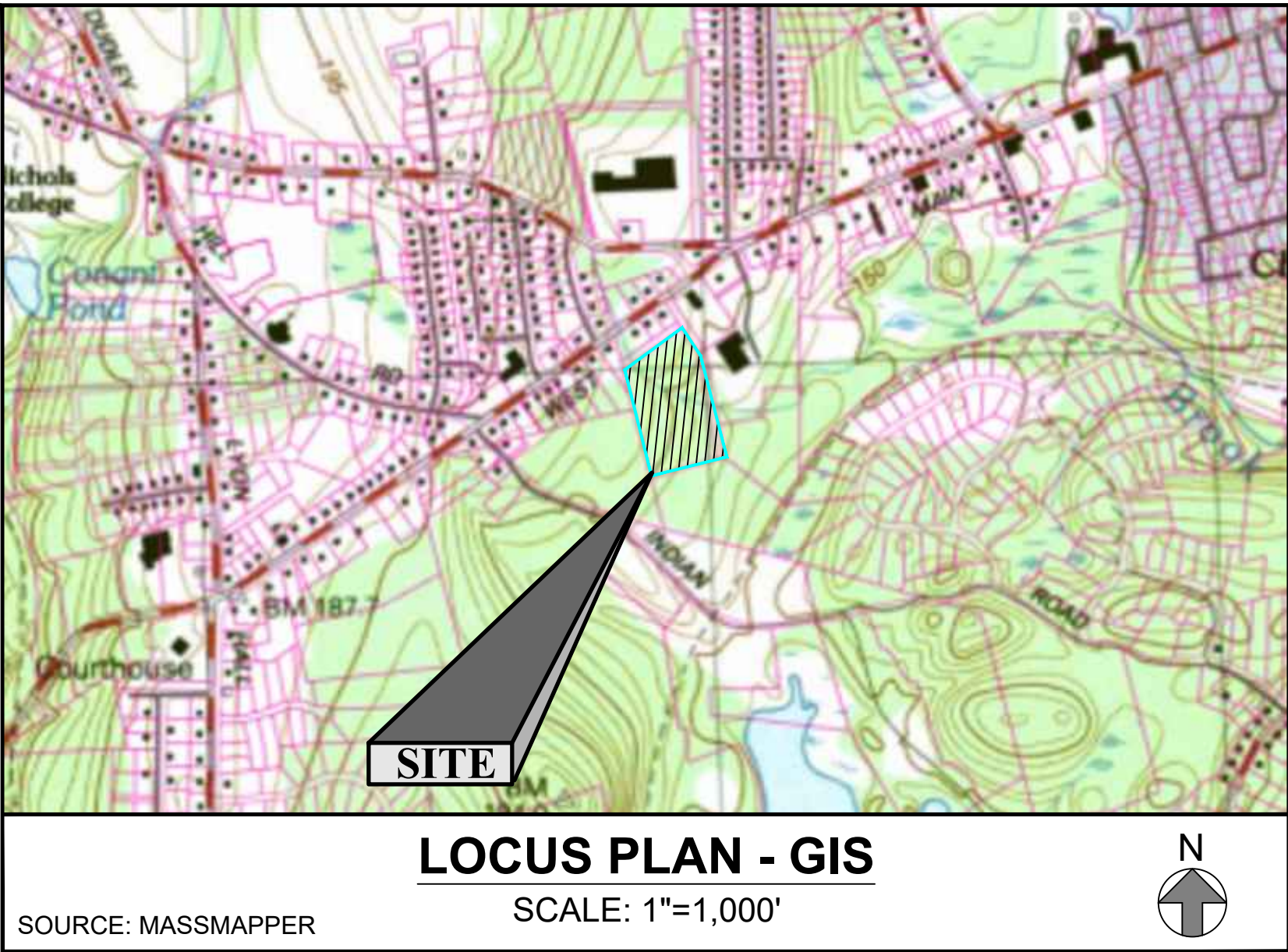
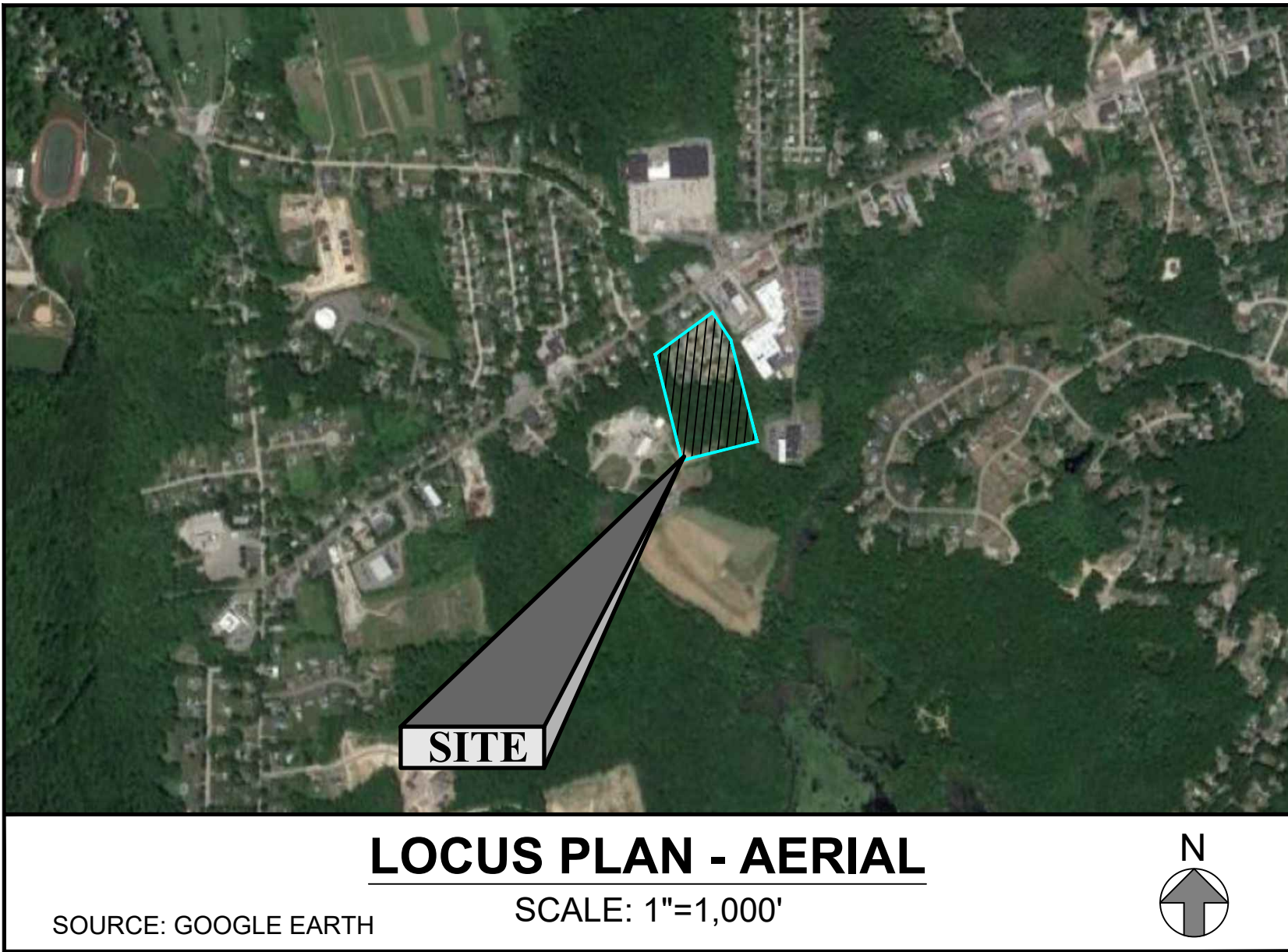
# PAVEMENT IMPROVEMENTS

## DUDLEY HOUSING AUTHORITY

JOSHUA PLACE, 667-1  
22 JOSHUA PLACE, DUDLEY, MA 01571  
EOHLC PROJECT #080050

SHEET INDEX		
No.	Title	Issue Date
C001	Cover Sheet	October 11, 2023
C101	Existing Conditions Plan	October 11, 2023
C102	Site Demo & Sediment and Erosion Control Plan	October 11, 2023
C103	Layout Plan	October 11, 2023
C104	Grading and Drainage Plan	October 11, 2023
C501	Site Details-1	October 11, 2023
C502	Site Details-2	October 11, 2023

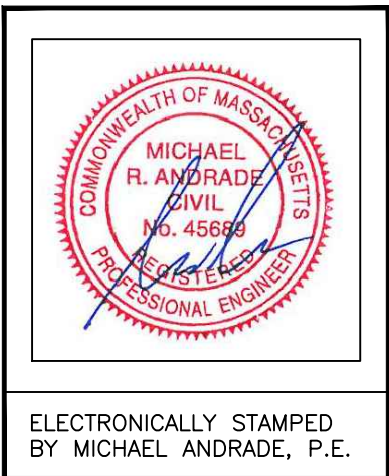
REVISIONS/ISSUES		
No.	Note	Date
1	Issued for EOHLC 100% CD	August 28, 2023
2	Issued for Permitting	October 11, 2023



**OWNER**  
Dudley Housing Authority  
22 Joshua Place  
Dudley, MA 01571  
Executive Director: Lucille Allard  
Chairman, Treasurer: Donald Cristina  
Vice Chair, State Appointee: Lynn Millette  
Member: Pelligrino D'Auria  
Member: Colin Humphries  
Member: Daniel Jachimczk

GRAVES  
ENGINEERING, Inc.

100 GROVE STREET | WORCESTER MA 01605  
T 508-856-0321 | F 508-856-0357  
gravesengineering.com



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PLANNING BOARD	APPROVAL DATE:



GENERAL NOTES

PARCEL DATA:  
AREA: 22 JOSHUA PLACE, 369,389 SQ.FT. (8.48 AC.)

OWNER: DUDLEY HOUSING AUTHORITY  
22 JOSHUA PLACE  
DUDLEY, MA 01571

REFERENCES:  
DEED BOOK: 6952 PAGE: 134  
ASSESSORS REFERENCE: 122-02, 122-05

- NOTES:
- THIS PLAN WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND IS SUBJECT TO ANY FINDINGS SUCH A REPORT MIGHT DISCLOSE.
  - LOCATION OF ALL UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE AND ARE BASED ON THE FIELD LOCATION OF VISIBLE STRUCTURES SUCH AS CATCH BASINS, MANHOLES, WATER GATES, ETC. AND COMPILING INFORMATION FROM PLANS SUPPLIED BY VARIOUS UTILITY COMPANIES AND GOVERNMENT AGENCIES. IN ACCORDANCE WITH CHAPTER 82 SECTION 40 INCLUDING AMENDMENTS, ALL CONTRACTORS SHOULD NOTIFY IN WRITING ALL UTILITY COMPANIES AND GOVERNMENT AGENCIES PRIOR TO ANY EXCAVATION WORK OR CALL DIG-SAFE AT 1-888-344-7233. THE TOWN OF DUDLEY DPW SHALL ALSO BE CONTACTED FOR UTILITY MARKOUTS.
  - TOPOGRAPHIC FEATURES AND UTILITIES SHOWN ON THIS PLAN ARE BASED UPON AN INSTRUMENT SURVEY PERFORMED BY GRAVES ENGINEERING, INC. ON MARCH 8, 2023 AND PLANS PREPARED BY GRAVES ENGINEERING, INC. DATED SEPTEMBER 18, 2019. TOPOGRAPHY MAY BE IRREGULAR WHERE THESE DATA INTERSECT. IT IS NOTED THAT THERE WAS SNOW COVER DURING THE INSTRUMENT SURVEY AND THERE MAY BE RESULTING MINOR TOPOGRAPHIC DISCREPANCIES.
  - PROPERTY LINES SHOWN ARE AS ESTABLISHED BY INSTRUMENT SURVEY BY B&R SURVEY, INC., 100 GROVE STREET, WORCESTER, MA IN FEBRUARY 2023.

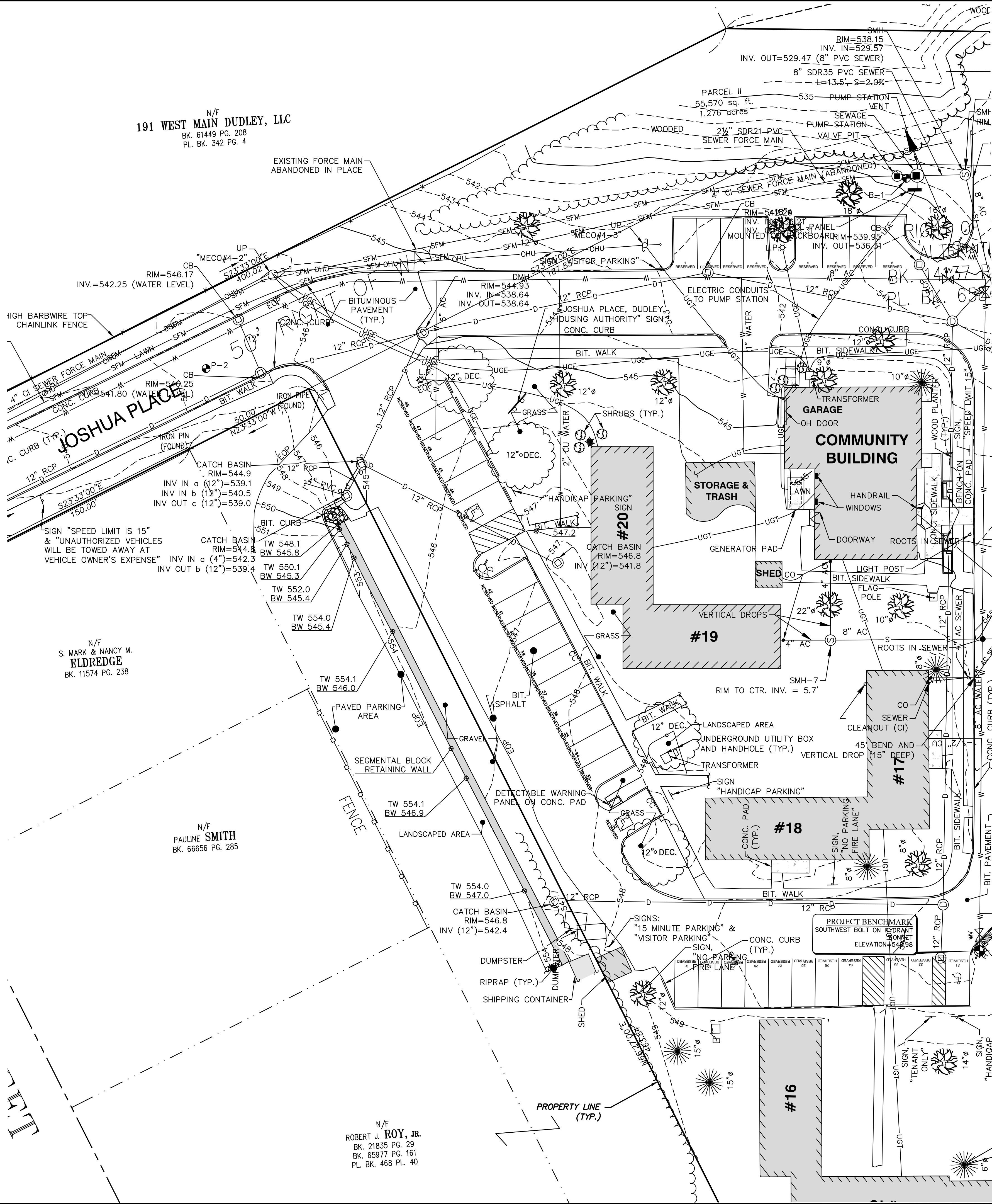
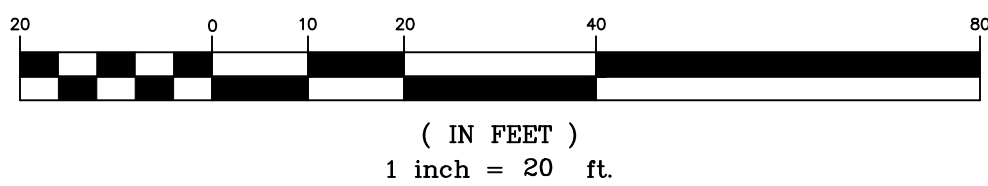
LEGEND

- DRAIN
- SEWER
- SEWER FORCE MAIN
- WATER
- OVERHEAD UTILITIES
- UNDERGROUND ELECTRIC
- UNDERGROUND TEL./CATV/FIRE ALARM
- STRAW WATTLE
- SEWER MANHOLE
- CATCH BASIN
- DRAIN MANHOLE
- LIGHT POST
- SIGN
- DECIDUOUS TREE
- CONIFEROUS TREE
- SHRUB
- BITUMINOUS
- CONCRETE
- CONCRETE CURB
- REINFORCED CONCRETE PIPE
- TOP OF WALL
- BOTTOM OF WALL

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NO.	DATE	BY	DESCRIPTION
2	10/11/23	MRA	ISSUED FOR PERMITTING
1	8/28/23	MRA	ISSUED FOR EOHLC 100% CD

NO.	DATE	BY	DESCRIPTION

NO.	DATE	BY	DESCRIPTION

NO.	DATE	BY	DESCRIPTION

NO.	DATE	BY	DESCRIPTION

NO.	DATE	BY	DESCRIPTION

NO.	DATE	BY	DESCRIPTION

EXISTING CONDITIONS PLAN

PARKING IMPROVEMENTS

DUDLEY HOUSING AUTHORITY, JOSHUA PLACE 667-1, EOHLC #080050

DUDLEY HOUSING AUTHORITY  
22 JOSHUA PLACE, DUDLEY, MA 01571





DATE: 08/28/23	SCALE: 1"=20'	DES. BY: OGC	DRW. BY: OGC	CHK. BY: MRA	PRJ. NO.: 23101
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SHEET NOTES:

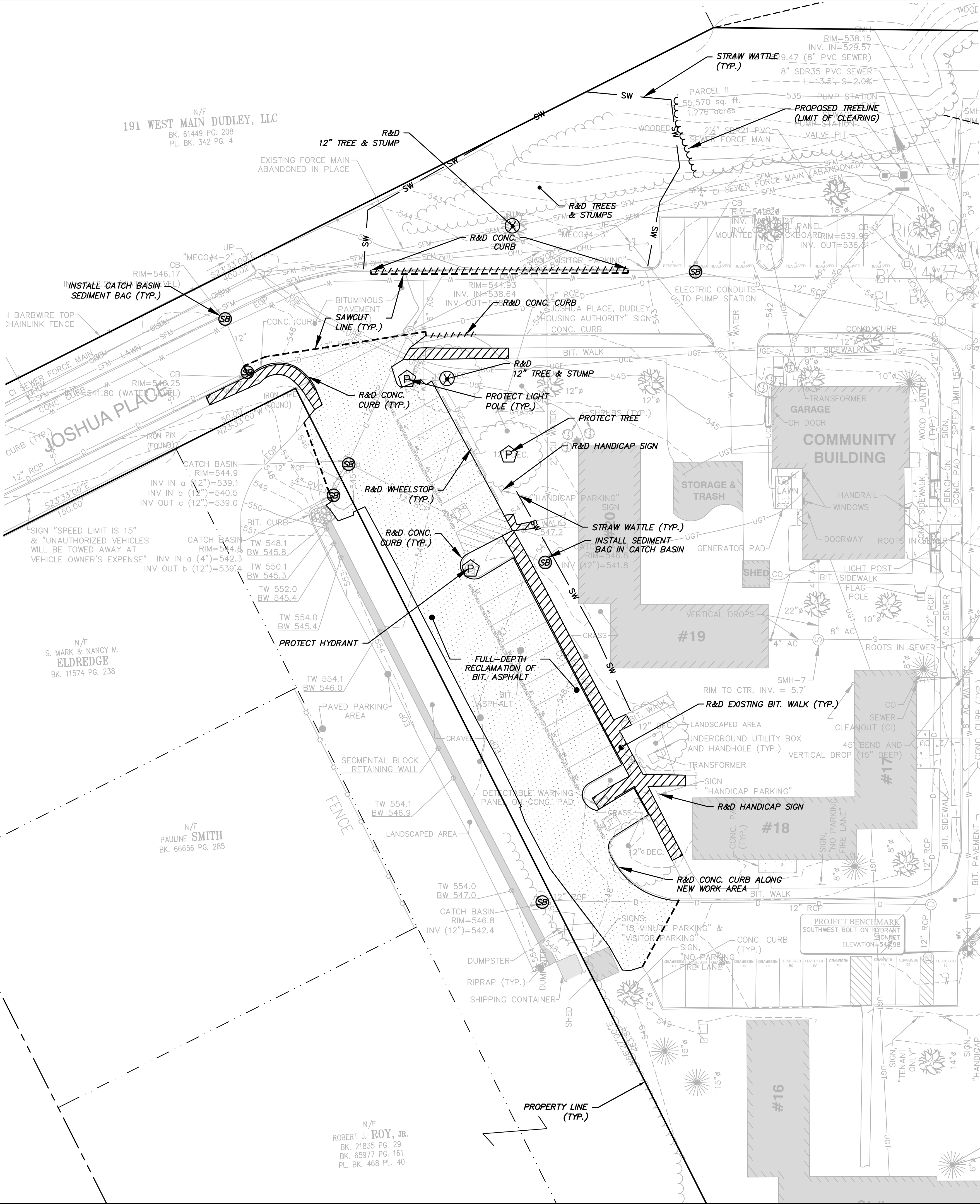
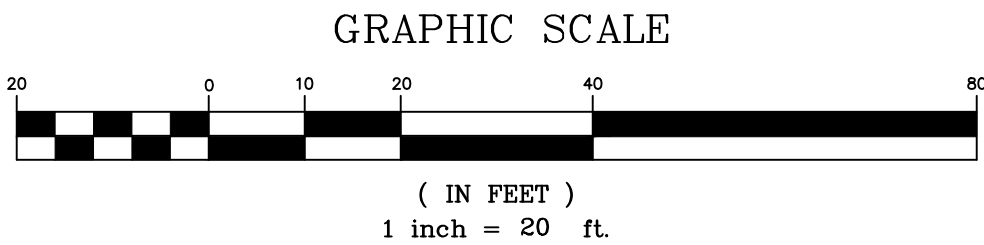
- 1) THE SEDIMENT AND EROSION CONTROLS, OR BEST MANAGEMENT PRACTICES (BMPs), SHOWN ON THESE PLANS SHALL BE CONSIDERED THE MINIMUM CONTROLS REQUIRED.
- 2) SEDIMENT CONTROLS SHALL BE INSTALLED AS SHOWN PRIOR TO THE START OF CONSTRUCTION.
- 3) ALL DISTURBED NON-PAVED OR NON-LAWNED AREAS SHALL BE SEEDED AND MULCHED. IF PERMANENT PLANTINGS CAN NOT BE INSTALLED IMMEDIATELY AFTER FINAL GRADING, THE AREAS SHALL BE TEMPORARILY MULCHED. WHERE PRACTICAL DURING CONSTRUCTION, DISTURBED AREAS SHALL BE STABILIZED BY TEMPORARILY SEEDING OR MULCHING. ALL DISTURBED AREAS WHERE CONSTRUCTION ACTIVITIES ARE NOT PLANNED FOR 14 DAYS OR MORE SHALL BE STABILIZED BY TEMPORARILY SEEDING OR MULCHING.
- 4) THE BASE OF ALL STOCKPILES SHALL BE RINGED WITH SILT FENCE AND HAYBALES OR COMPOST SOCKS IF ON IMPERVIOUS SURFACES. LONG TERM STOCKPILES SHALL BE SEEDED.
- 5) ALL SLOPES 3:1 OR GREATER SHALL BE STABILIZED WITH GEOTEXTILE EROSION CONTROL MATTING (REFER TO SPECIFICATIONS).
- 6) SAW CUT AT THE JUNCTION OF ALL EXISTING AND PROPOSED CURB SIDEWALK AND PAVEMENT, AND FOR ALL PAVEMENT REMOVAL.
- 7) ALL ITEMS NOTED TO BE REMOVED AND DISPOSED SHALL BE PROPERLY BE DISPOSED OF OFFSITE.
- 8) SEDIMENT TRACKED ONTO ROADWAYS ADJACENT TO THE SITE SHALL BE SWEEPED CLEAN AND REMOVED EACH DAY.

SHEET KEY

- FEATURES MARKED AS  SHALL BE PROTECTED
- FEATURES MARKED AS  SHALL BE R&D
- R&D = REMOVE AND DISPOSE (OFFSITE)
-  = R&D EXISTING BIT. WALK
-  = FULL-DEPTH RECLAMATION OF BITUMINOUS PAVEMENT (FDR)



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SITE DEMO & SEDIMENT AND EROSION CONTROL PLAN PARKING IMPROVEMENTS DUDLEY HOUSING AUTHORITY, JOSHUA PLACE 667-1, EOHLC #080050			
PREPARED FOR: DUDLEY HOUSING AUTHORITY 22 JOSHUA PLACE, DUDLEY, MA 01571			
DATE: 08/28/23	SCALE: 1"=20'	DES. BY: OGC	DRW. BY: OGC
CHK. BY: MRA	PRJ. NO.: 23101		



SHEET NOTES

- 1) CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS WITH 6 INCHES OF LOAM AND SEED.
- 2) UNITS WILL REMAIN OCCUPIED THROUGHOUT THE CONSTRUCTION PERIOD. WORK SHALL BE COORDINATED WITH THE HOUSING AUTHORITY AND CONDUCTED IN A MANNER TO MINIMIZE DISRUPTION AND PROVIDE SAFE, ACCESSIBLE ROUTES DURING CONSTRUCTION
- 3) ALL SITE AND ROADWAY CONSTRUCTION MATERIALS (GRAVEL, BITUMINOUS CONCRETE, PORTLAND CEMENT CONCRETE, ETC.) SHALL COMPLY WITH THE CURRENT TOWN OF DUDLEY STANDARDS AND THE MASSACHUSETTS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES CURRENT EDITION.
- 4) EXISTING MATERIALS TO BE REMOVED SHALL BE DISPOSED IN A LAWFUL MANNER OFFSITE.
- 5) THE CONTRACTOR IS CAUTIONED THAT UNDERGROUND UTILITIES AND STRUCTURES SHOWN ARE APPROXIMATE IN NATURE. THE CONTRACTOR SHALL FIELD VERIFY INVERTS, LOCATIONS AND SIZES OF ALL UNDERGROUND UTILITIES. CONTACT DIGSAFE (1-888-DIG-SAFE) 72 HOURS BEFORE COMMENCING ANY EXCAVATION. THE CONTRACTOR SHALL CONTACT THE TOWN OF DUDLEY DPW TO OBTAIN MARKOUTS OF THE WATER AND SEWER UTILITIES.
- 6) THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICES, AND ANY DAMAGE TO THEM BY HIS OPERATION SHALL BE IMMEDIATELY AND COMPLETELY REPAIRED AT THE CONTRACTOR'S EXPENSE.
- 7) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THERE IS SUFFICIENT COVER ON ALL PIPING DURING CONSTRUCTION TO PREVENT FAILURE OF PIPES.
- 8) SAW CUT AT THE JUNCTION OF ALL EXISTING AND PROPOSED CURB SIDEWALK AND PAVEMENT, AND FOR ALL PAVEMENT REMOVAL.

SIGNAGE KEY

GEI ID	FEDERAL ID	SIGN SIZE		SIGN LAYOUT	QUANTITY
		WIDTH	HEIGHT		
S-1	R7-8	12"	18"		2
S-2	R7-8a	12"	6"		2

PARKING SUMMARY - JOSHUA PLACE

	MARKED PARKING SPACES	RATIO TO UNITS
EXISTING SPACES	48	0.6 TO 1
PROPOSED SPACES	65(+17)	0.8 TO 1

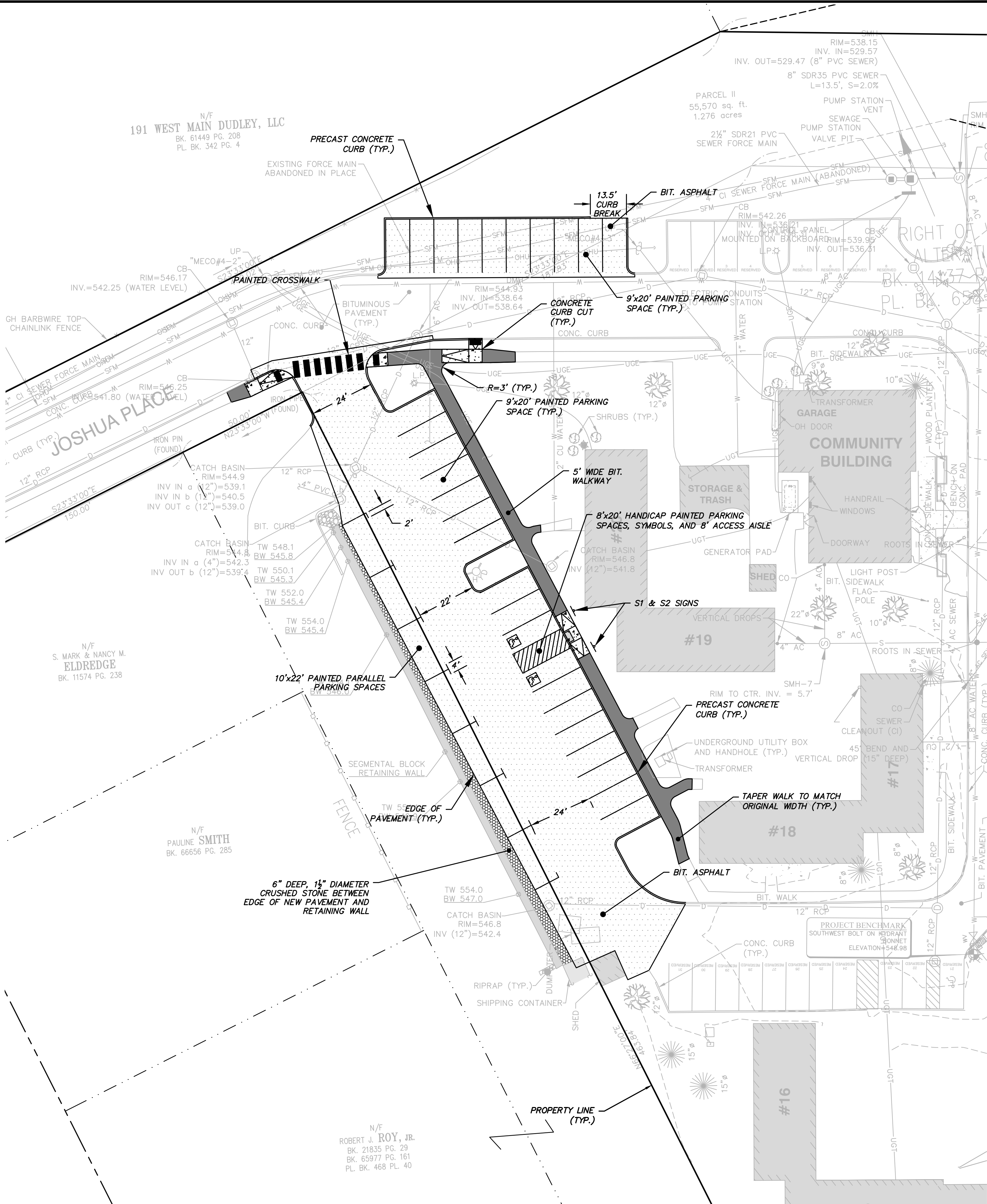
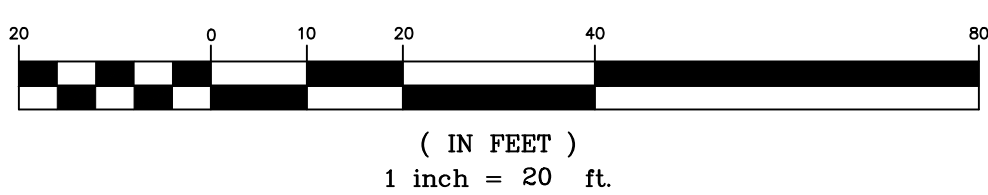
NOTES:

- 1) JOSHUA PLACE HAS 80 DWELLING UNITS.
- 2) ADDITIONAL PARKING WILL REMAIN ALONG CURB LINES AROUND THE DEVELOPMENT.

SIGNATURE BLOCK

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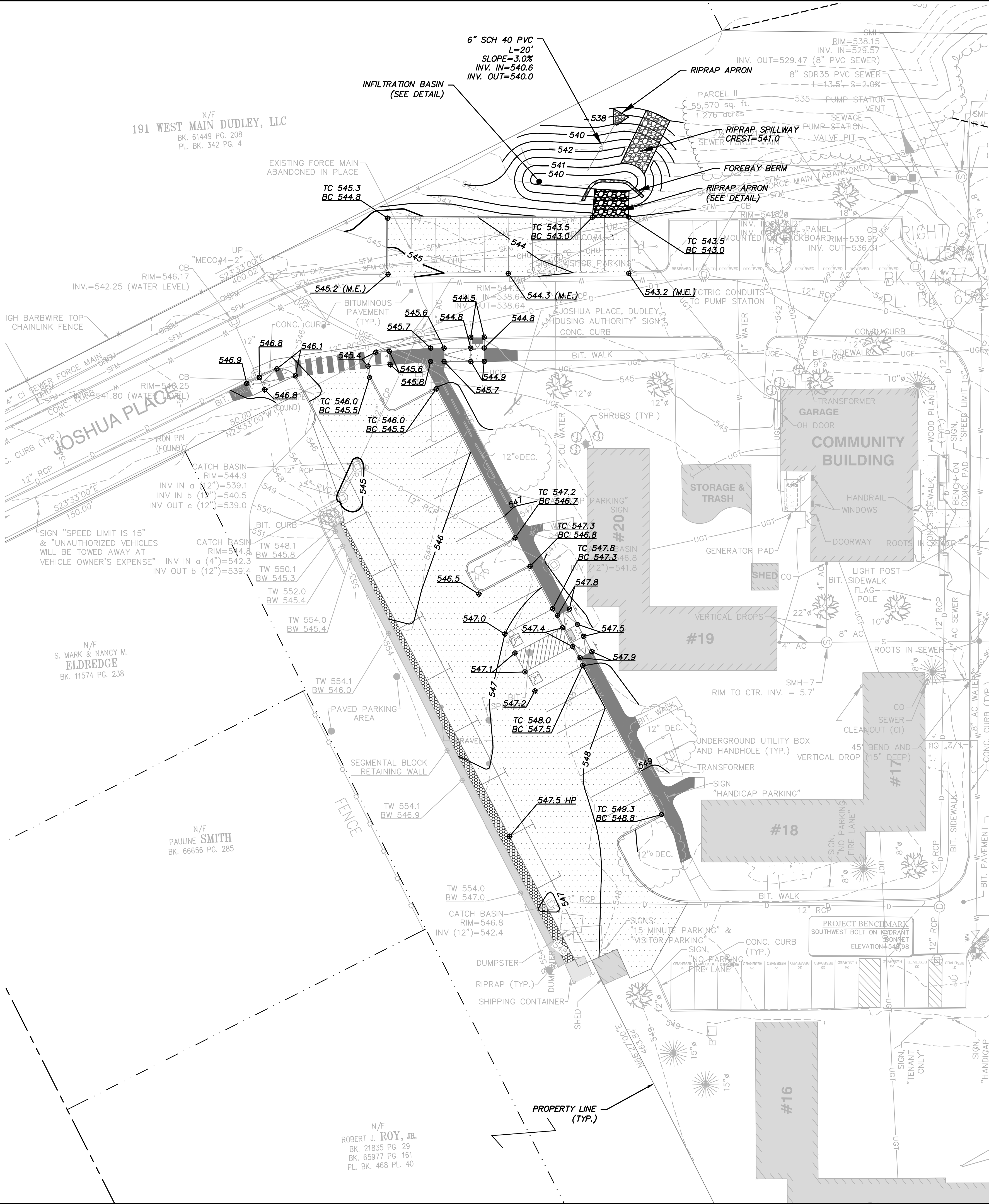
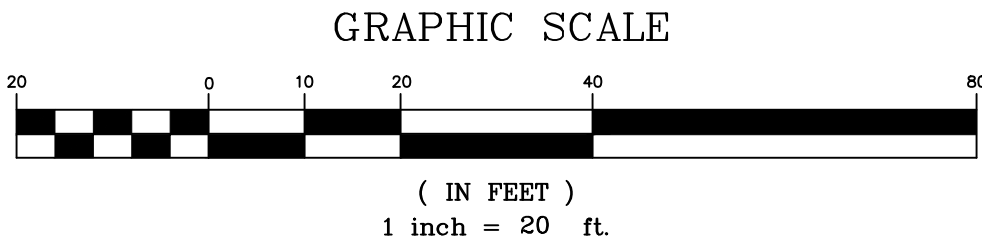
LAYOUT PLAN			
PARKING IMPROVEMENTS			
DUDLEY HOUSING AUTHORITY, 667-1, JOSHUA PLACE APARTMENTS, EOHLC #080050			
DUDLEY HOUSING AUTHORITY 22 JOSHUA PLACE, DUDLEY, MA 01571			
DATE: 08/28/23	SCALE: 1"=20'	DES. BY: OGC	CHK. BY: MRA
DRW. BY: OGC	PRJ. NO.: 23101		



SHEET NOTES

- 1) PROVIDE POSITIVE DRAINAGE IN ALL FINISH GRADED WORK AREAS INCLUDING AWAY FROM ALL BUILDINGS.
- 2) ADJUST ALL STRUCTURES (MANHOLES, WATER GATE VALVES, SHUTOFFS, ETC.) TO PROPOSED FINISH GRADES WITHIN THE LIMIT OF WORK.
- 3) ALL FINISHED GRASSED SLOPES EQUAL TO OR GREATER THAN A 3:1 SLOPE SHALL BE STABILIZED WITH AN EROSION CONTROL MATTING SUCH AS SC-150 BY NORTH AMERICAN GREEN, CURLEX II BY AMERICAN EXCELSIOR, OR ENGINEER APPROVED EQUAL. COORDINATE MATTING LOCATIONS WITH THE LANDSCAPE PLANS AND GROUND COVER MATERIALS.
- 4) ALL NEW PAVEMENT AND CONCRETE SURFACES SHALL BE CONSTRUCTED TO PROPOSED GRADES AS SHOWN AND SHALL BE SMOOTH AND UNIFORM ELIMINATING DEFORMITIES, DEPRESSIONS, PUDDLES, AND TRIP HAZARDS. PROVIDE POSITIVE DRAINAGE ON ON ALL NEW PAVEMENT AND CONCRETE SURFACES, AWAY FROM BUILDINGS, AND TO EXISTING CATCH BASINS, OUTFALLS OR OTHER COLLECTION POINTS.
- 5) UNLESS OTHERWISE NOTED, PROPOSED WALKWAYS ARE DESIGNED FOR COMPLIANCE WITH 521 CMR ARCHITECTURAL ACCESS BOARD REGULATIONS AND SHALL HAVE RUNNING (LONGITUDINAL) SLOPES NO GREATER THAN 4.5%. CROSS SLOPES OF WALKWAYS SHALL BE PITCHED TO DRAIN BUT NO MORE THAN 1.5%. NEW WALKWAYS SHALL MATCH (BE FLUSH WITH) EXISTING ELEVATIONS WHERE SHOWN OR NOTED WITH CHANGES IN LEVELS (ELEVATIONS) NO GREATER THAN 1/4-INCH.
- 6) PROPOSED GRADES AS SHOWN SHALL BE CARRIED TO ALL PAVEMENT CORNERS HOWEVER GRADE ADJUSTMENTS SHALL BE MADE BY THE CONTRACTOR AS NECESSARY TO PROVIDE POSITIVE DRAINAGE FROM ALL CORNERS.
- 7) SPOT GRADE KEY:  
TC = TOP OF CURB FINISH GRADE  
BC = BOTTOM OF CURB FINISH GRADE  
ME = MATCH EXISTING
- HP = HIGH POINT  
LP = LOW POINT

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GRADING AND DRAINAGE PLAN

PARKING IMPROVEMENTS

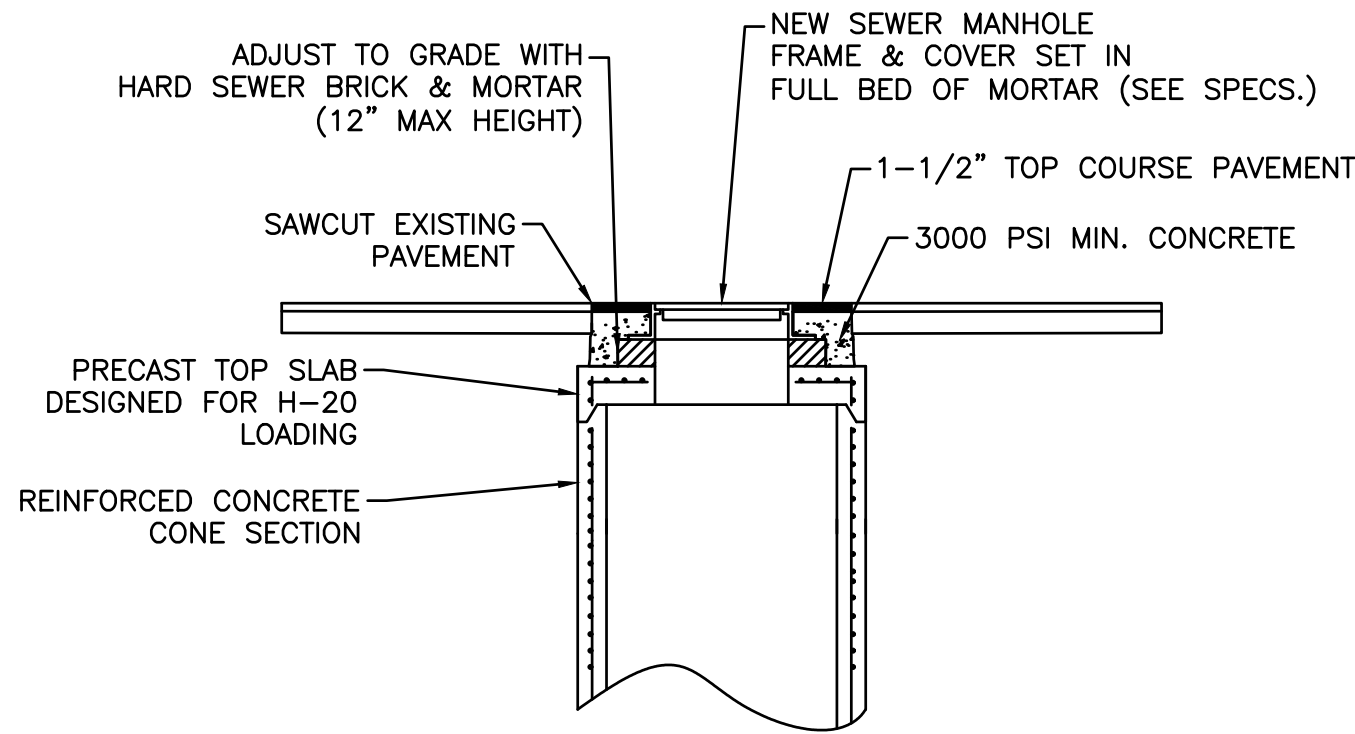
DUDLEY HOUSING AUTHORITY, 667-1, JOSHUA PLACE APARTMENTS, EOHLC #080050

PREPARED FOR:  
DUDLEY HOUSING AUTHORITY  
22 JOSHUA PLACE, DUDLEY, MA 01571

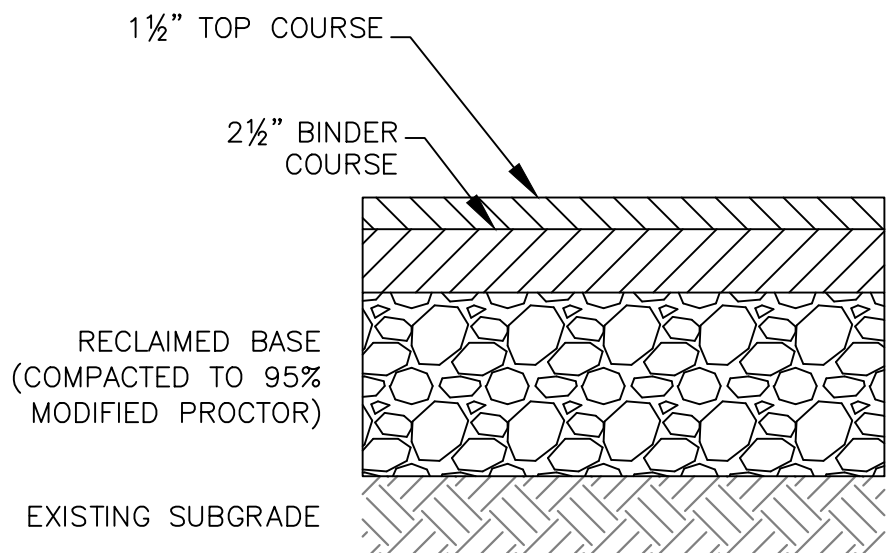
DATE: 08/28/23 SCALE: 1"=20'

DES. BY: OGC DRW. BY: OGC CHK. BY: MRA PRJ. NO.: 23101

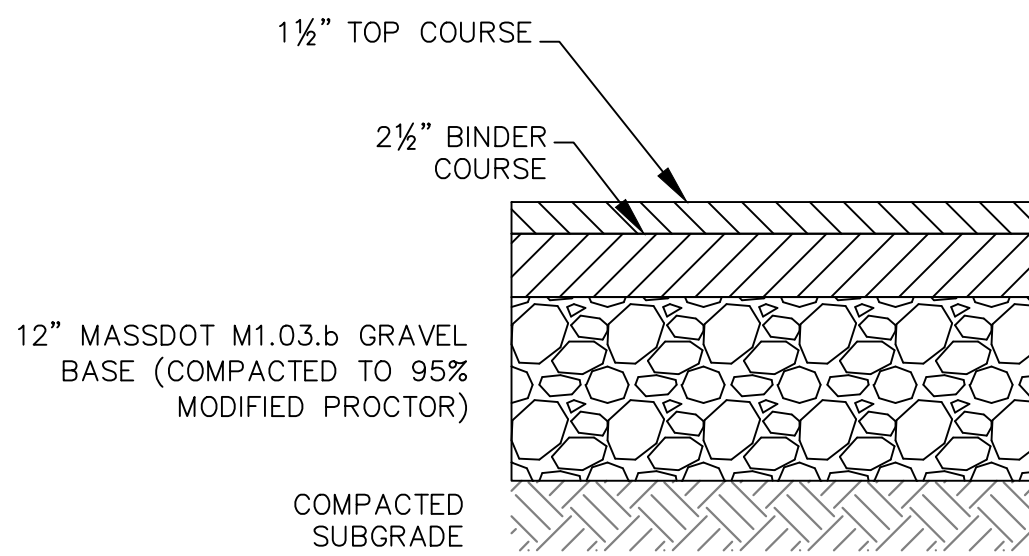




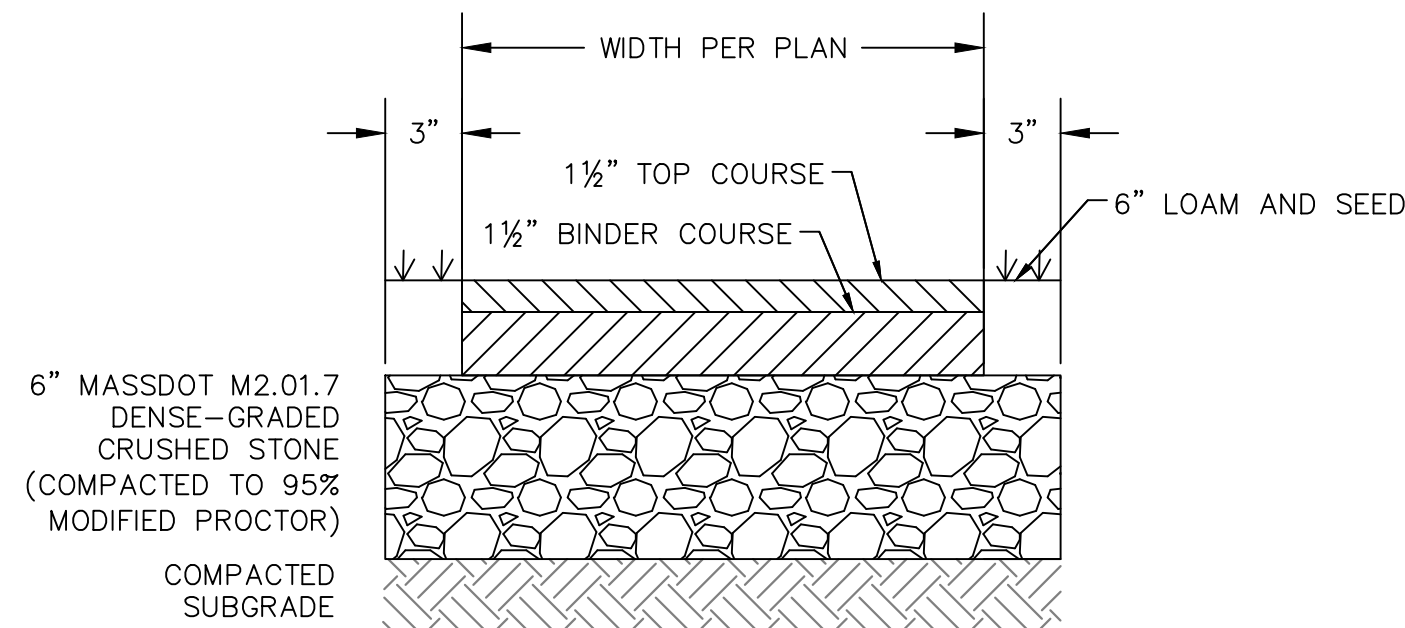
MANHOLE COVER ADJUSTMENT NTS



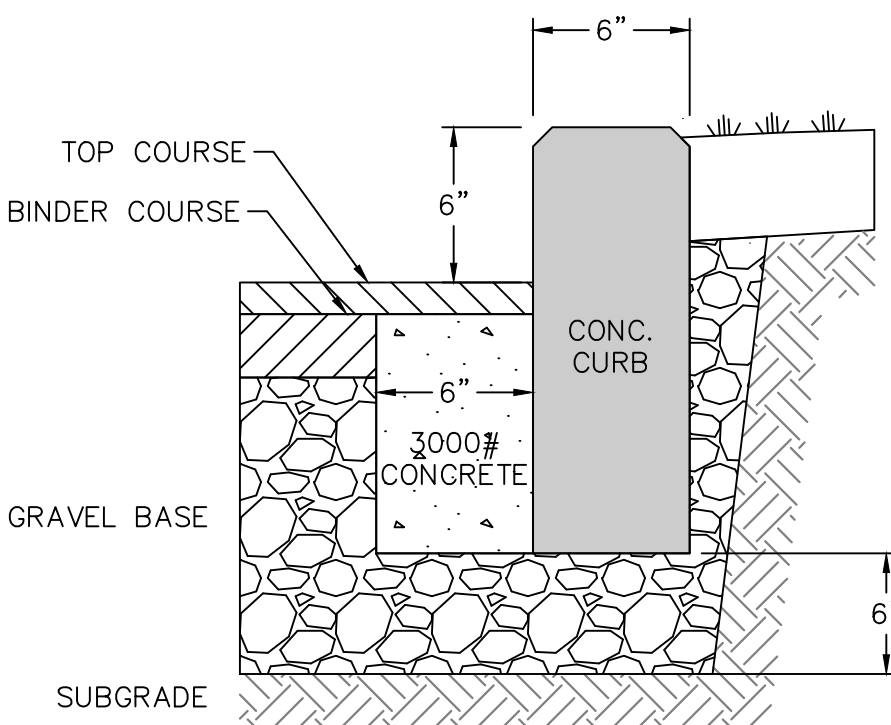
PAVEMENT SECTION - ROADWAY FULL DEPTH RECLAMATION NTS



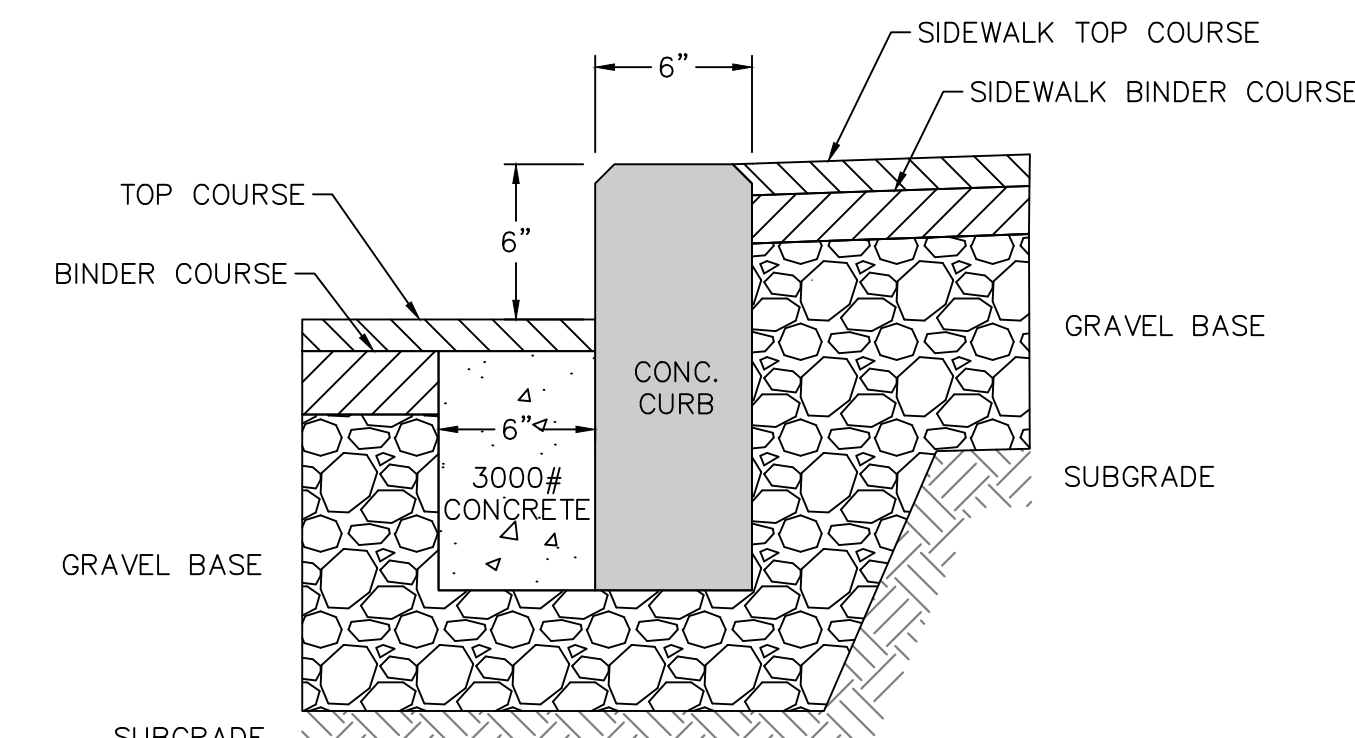
PAVEMENT SECTION NTS



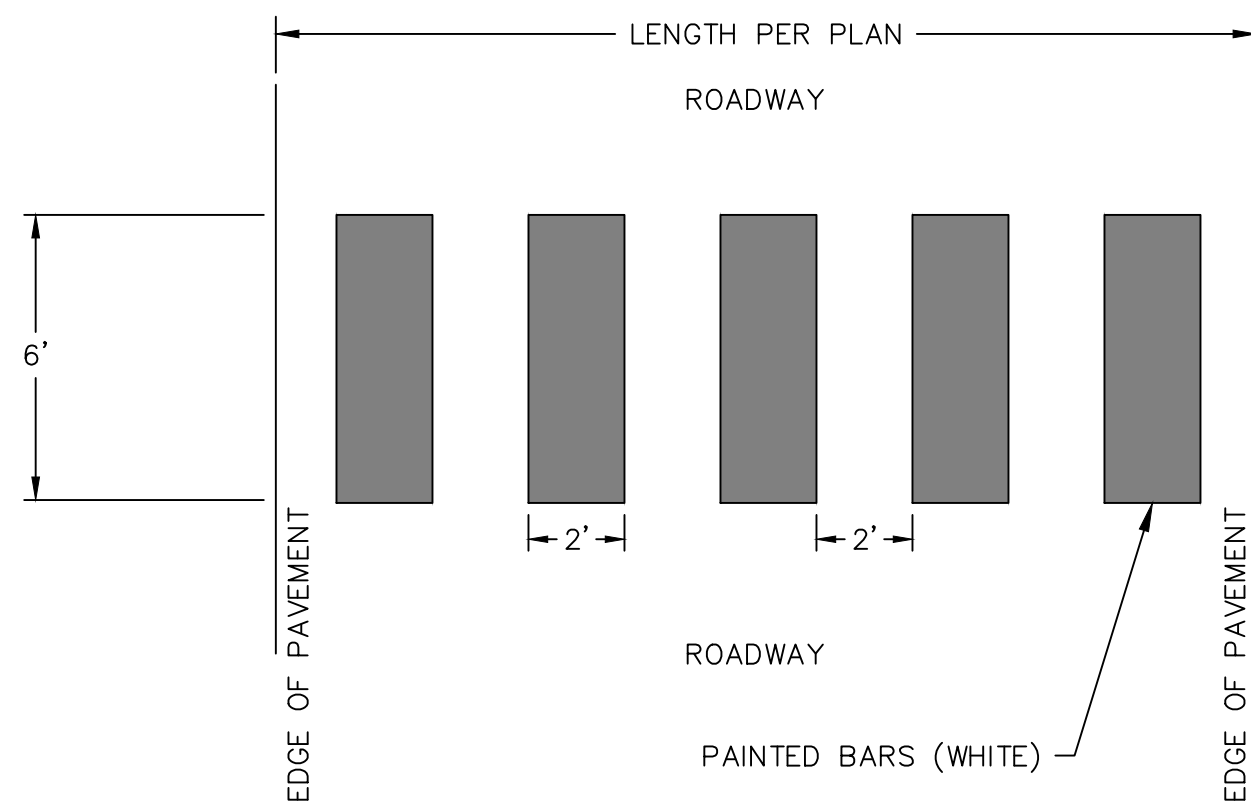
BITUMINOUS WALKWAY SECTION NTS



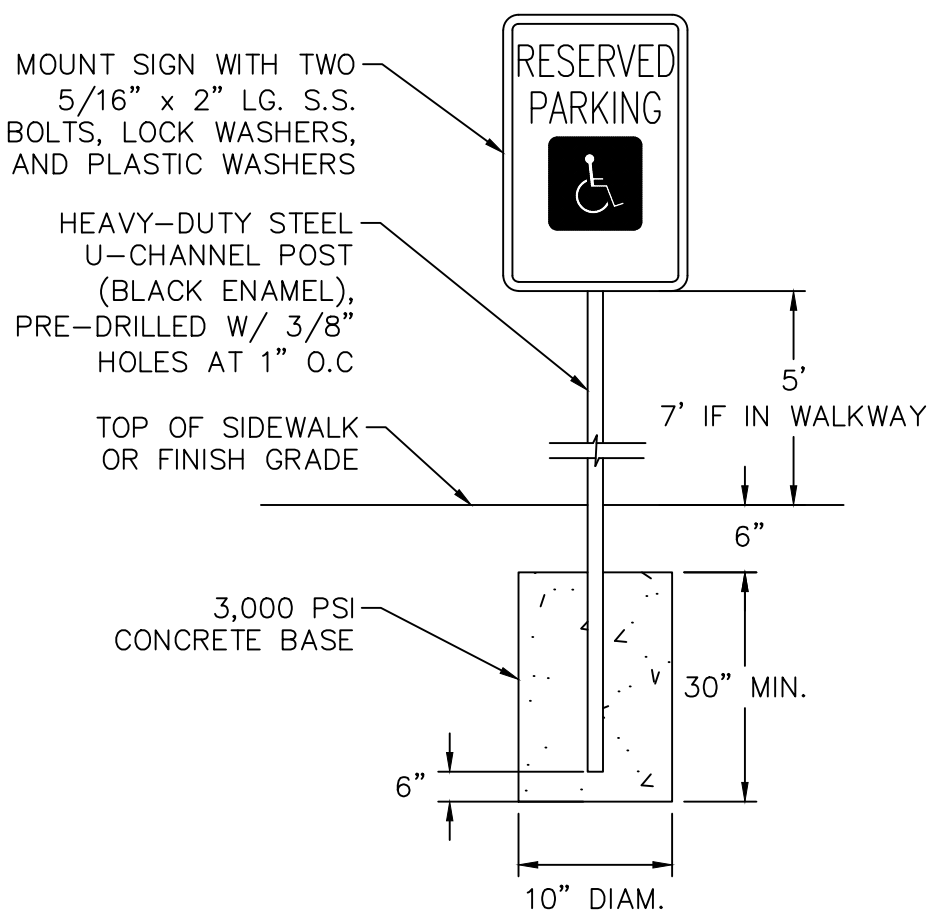
PRECAST CONCRETE CURB NTS



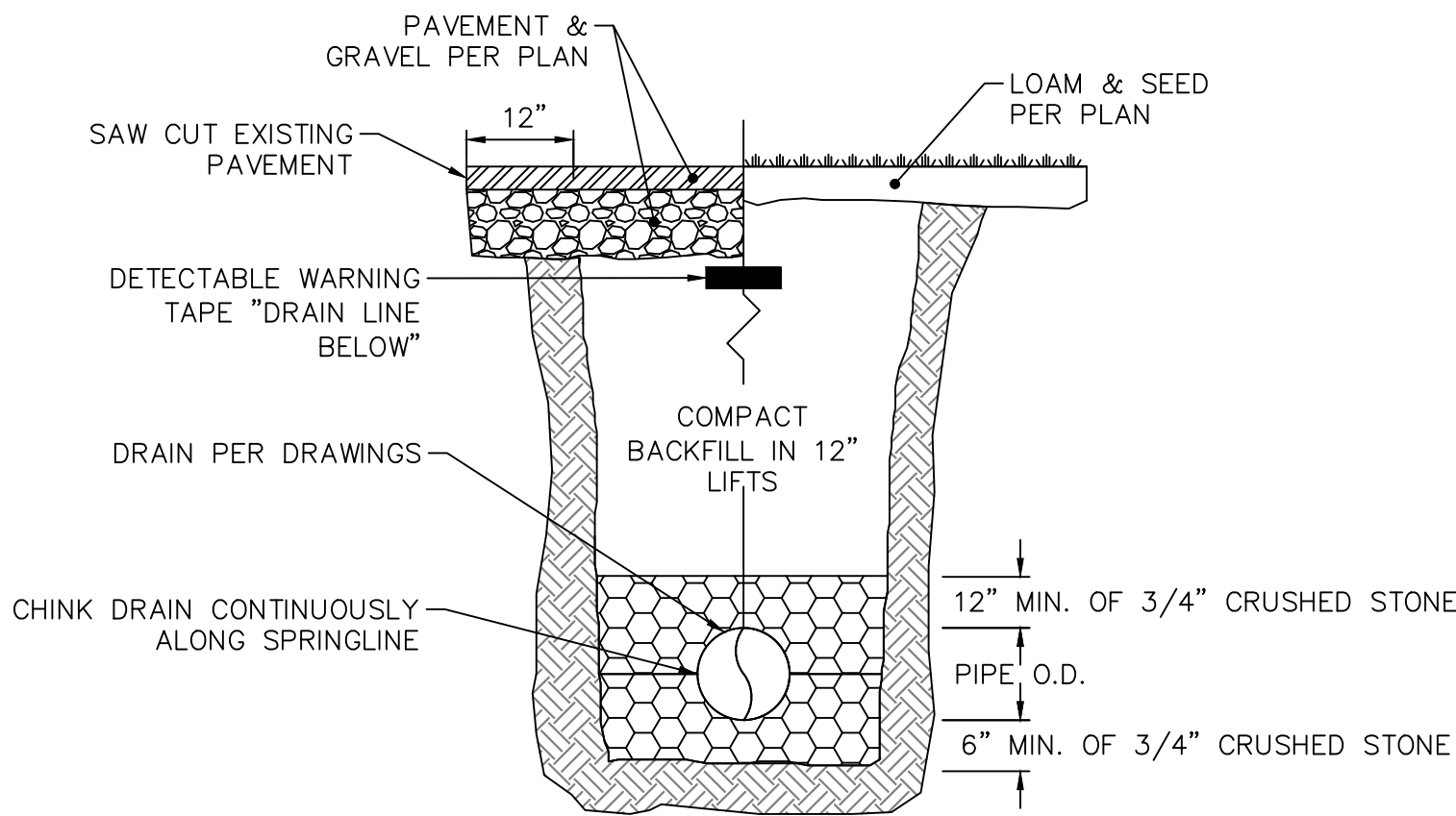
PRECAST CONCRETE CURB W/ BITUMINOUS SIDEWALK NTS



CROSSWALK NTS



SIGN NTS



HDPE DRAIN TRENCH SECTION NTS

NOTE:  
1) THIS DETAIL APPLIES TO THE CONSTRUCTION OF ALL PROPOSED SIGNS; (SIGN TYPE AND DIMENSIONS MAY VARY FROM THOSE SHOWN). HANDICAP VAN ACCESSIBLE PLACARD SHALL BE MOUNTED DIRECTLY BELOW PRIMARY SIGN.

NOTES:  
1) BACKFILL SHALL BE AN AASHTO CLASS III SOIL; EITHER TRENCH SPOILS OR AN IMPORTED SAND AND GRAVEL WITH FINES AND COMPACTED TO 90% OF THE PROCTOR DENSITY.  
2) BACKFILL OF HDPE PIPE SHALL CONFORM TO ASTM D2321 AND/OR MANUFACTURER'S SPECIFICATIONS.

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<b>SITE DETAILS - 1</b>		PRJ. NO.: 23101
<b>PARKING IMPROVEMENTS</b>		CHK. BY: MRA
<b>DUDLEY HOUSING AUTHORITY, JOSHUA PLACE 667-1, EOHLC #080050</b>		DRW. BY: OGC
DUDLEY HOUSING AUTHORITY		DES. BY: OGC
22 JOSHUA PLACE, DUDLEY, MA 01571		SCALE: NTS
PREPARED FOR:	DATE: 08/28/23	

